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ABSTRACT

This collection of four reports deals with the topics of teacher education, teacher tasks, general aspects of training policies, and changes in teacher tasks and working conditions. The first report, "Experiments in Continuing Teacher Training," by Edouard Breuse, examines the program established in the French-speaking part of Belgium. The experiment organized for state school teachers promotes training for new teacher attitudes and brings teams of educators together for retraining. "Experiments in Continuing Teacher Training," by Gilles Feery, examines several innovative approaches to teacher training in France. Topics include a) diversity of conditions in which the innovations were set up, b) variety of models, and c) disparities in how the models fit into institutional structures. The report also considers whether a new model of teacher training is now being built up from disparate efforts, each focusing on a limited aspect of training. "Experiment of the College of Secondary Education at Marly-le-Roi and Its Implications for Teacher Tasks," by Josette Poinssac, discusses the effects of educational technology on the changing pattern of teacher tasks. "Innovative Trends to Teacher Training and Retraining," by S. J. Eggleston, discusses the 1972 government white paper on educational reorganization and its policies for the restructuring of tertiary education and the adjustment of teacher supply as being the critical factor in innovation in England and Wales. (Author/JS)

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CONTENTS

BELGIUM

- Experiments in Continuing Teacher Training
  by Edouard Breuse 7

FRANCE

- Experiments in Continuing Teacher Training
  by Gilles Ferry with the collaboration
  of Agnès Braun 33
- Experiment of the College of Secondary Education
  at Marly-le-Roi and its Implications for Teacher Tasks
  by Josette Poinssac 57

UNITED KINGDOM

- Innovative Trends To Teacher Training and Retraining
  by S.J. Eggleston 79

PREFACE

Within the framework of the programme of work of the Education Committee, the OECD has over the last few years undertaken an analysis of various aspects of teacher policies in primary and secondary education.

At the heart of the problems which confront Member countries in the transformation of the teachers' roles are teacher education and new patterns of teacher tasks. These problems were analysed in an earlier OECD publication: The Teacher and Educational Change - A New Role.

Work and discussions among experts have led to a series of preliminary conclusions concerning trends in the two areas mentioned above and these have been published under the title: New Patterns of Teacher Education and Tasks: General Analysis. This analysis was based on a number of case studies of innovations in Member countries, which seem to respond to some of the key questions in the future development of the teaching profession.

The interest shown in these analyses has encouraged the Secretariat to publish the most significant of them in a series of volumes. Each volume contains either country studies dealing with both teacher education and teacher tasks or studies which concern the more general aspects of training policies and changes in teacher tasks and working conditions.

BELGIUM

Experiments in Continuing Teacher Training

by

Edouard Breuse

Inspecteur général de l'enseignement supérieur
Professeur à l'Université de l'Etat à Mons

CONTENTS

SUMMARY 7

A. INTRODUCTION: GENERAL REMARKS 8

B. EDUCATIONAL REFORM IN BELGIUM 9

(i) Secondary education 9
(ii) Primary education 10

C. RETRAINING OF SECONDARY SCHOOL TEACHERS 11

(i) Gaps in retraining 11
(ii) Retraining for new attitudes 13
(iii) Follow-up sessions 15
(iv) Institutional analysis 15
(v) Introductory courses in techniques of corporal and vocal expression 15
(vi) Evaluation of change 16
(vii) Failures 17

D. RETRAINING OF PRIMARY SCHOOL TEACHERS: CORRESPONDENCE COURSES AND CHANGING ATTITUDES 18

E. THE WORK OF THE "OFFICE BELGE POUR L'ACCROISSEMENT DE LA PRODUCTIVITE" (OBAP) (BELGIAN PRODUCTIVITY OFFICE) 20

(i) Seminars for inspectors 22
(ii) Management 22

F. RETRAINING FOR TRAINERS OF TRAINERS AND INSPECTORS 22

G. INITIAL AND CONTINUING TEACHER TRAINING 23

(i) Group leadership in primary school teacher training 23
(ii) Evaluation of primary school teacher training 24

ANNEX I: Bibliography 26

ANNEX II: Possible research and development activities 27

SUMMARY

Continuing teacher training is being gradually established in Belgium. The aim is to reach as many teachers as possible through further training and retraining in subject matter and methods. Traditional means are being used for this training. The situation is far from perfect. What is clear is that a system of continuing training can be built up only on the basis of teachers' actual situation. Account will have to be taken in future of, among other things, their pressing desire for such continuing training to be organized on a regional basis.

The experiment organised for State school teachers in the French-speaking part of the country to promote training for new attitudes is, although still limited, apparently yielding excellent results, especially as it is being carried out through educational teams bringing together all those who take part in education: inspectors, principals, teachers, administrators and educators. If continuing training is to have a profound and lasting effect, this kind of retraining is necessary from the outset.

The improved climate created in schools where the teachers have benefited from such retraining has been especially apparent through the much better relationships established. This climate has moreover had a most salutary effect on the reception of young teachers beginning their careers and on the implementation of the innovating principles of their initial training.

In so far as continuing training will affect a larger number of teachers and will result in qualitative improvements, it will clearly have repercussions on initial teacher training. Closer collaboration is already being established between the training colleges and the schools, not only for the organisation of teaching practice but also for the preparation of training programmes.

The effect is already quite clear as regards the length of the period of initial training. Whereas fairly recently there was great demand for the period to be extended, today it seems that this idea is on the way out. It is symptomatic that the length of the initial training of nursery school teachers (children aged 3 to 6), primary school teachers (children aged 6 to 12) and first-cycle secondary school teachers - the "regents" - (children aged 12 to 15) will be identical as from 1st September, 1974 (two years after secondary education). It will thus become possible to provide all these teachers with a common basic psycho-pedagogical training which will help to remove the barriers that have so far separated them.

This initial training of identical duration already raises serious financial problems since the Unions are demanding the same pecuniary status for all such teachers who had hitherto been strictly differentiated.

It is to be regretted that the University, which has to provide both scientific and psycho-pedagogical training ("agrégation") for licenciés-agrégés, completely overlooks this latter aspect. No adjustment has been made to the agrégation and the coexistence, in reformed secondary schools, of pedagogically well-trained regents and notoriously ill-trained licenciés-agrégés will certainly give rise to serious problems. It is urgently necessary to provide psycho-pedagogical training which will prepare the licenciés-agrégés to meet the requirements of reformed education.

A. INTRODUCTION: GENERAL REMARKS

The aim of the present report is to summarise what has been done in Belgium as regards the continuing training of educators. Although limited experiments in further training and retraining of teachers have made their appearance over the last ten years, the need for continuing training really became imperative as from 1969 in secondary education and 1971 in primary education when the reform of these two levels of education was implemented.

The first decision of the responsible authorities faced with the profound changes pending in education was quite naturally to cope with the most urgent problem, i.e. retraining of teachers in subject matter and methods. Courses were therefore given in modern mathematics, linguistics, technology, testing and computer science using the traditional forms of conferences, seminars, correspondence courses, TV courses, etc.

This retraining was indispensable and continues to be so. However, the authorities realised quite soon that it would be fully effective only if it were accompanied by or, better still, preceded by a questioning of and a profound change in teachers' attitudes: a new conception of their role was inevitably being imposed. The present report lays special emphasis on this aspect of retraining.

The Catholic education authorities in the French-speaking part of the country passed the problem of changing attitudes and teacher-pupil-parent relationships to the parents' associations, which in turn made it one of their fundamental objectives. Various activities were launched to this end by the National Confederation of Parents' Associations in order to inform and instruct parents as to their educational responsibilities and their dialogue and collaboration with the school educators.

The State education authorities (French-speaking part of the country) have in our opinion adopted an original approach here. They largely concentrated their efforts on changing teacher attitudes. Seminars on the effect of small-group dynamics on the teaching-learning relationship, institutional analysis and seminars on corporal and vocal expression have assembled educational teams which, according to the aims pursued, combined teachers from various types of schools and education, educators, principals, inspectors and those in key positions both in school and administration.

Apart from the immediate objective, it is undeniable that this change in teacher attitudes has also had the effect of creating a more propitious climate in schools for the reception of young teachers whose initial training with its innovating tendencies was often disparaged by their more conservative seniors. G. De Landscheere had in fact shown(1) in an earlier study that young teachers imitate the older teachers instead of applying the new principles suggested to them in the training colleges. It is moreover certain that the extension of further training and retraining courses to a greater number of teachers will inevitably affect the length, content, methods and evaluation of initial teacher training.

Although demanded by many, the period of study for both first-cycle and second-cycle secondary school teachers has not been lengthened. It even appears that the trend

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(1) G. De Landsheere and E. Bayer "Comment les maîtres enseignent", Documentation 21 - 1970, Ministry of Education, page 13.

is toward common teacher training for nursery school teachers, primary school teachers and first-cycle secondary school teachers, since the respective duration of their studies will be the same as from 1st September, 1974. It should also be noted that the method of continuing evaluation applied so far only to primary school teacher training will be extended in the present academic year to first-cycle secondary school teachers and probably in 1974-75 to nursery school teachers.

Lastly, on another level, association in the management of State secondary schools, which is compulsory in the Dutch-speaking part of the country and growing in the French-speaking part, has made an important contribution toward the change of outlook. While its aim is to associate in the management of the school the persons and groups who have responsibilities there and who are interested in its efficient operation and development, i.e. the staff, pupils and parents, it is much more a method of educational action entailing a change of outlook than a simple problem of structures.

B. EDUCATIONAL REFORM IN BELGIUM

(i) Secondary education

A far-reaching reform of Belgian secondary education was begun at the start of the 1969 academic year. Initially confined in the French-speaking part of the country to just over 20 schools, all volunteers, this experiment at the beginning of the 1973-74 academic year covers 207 State schools out of 395, i.e. 52.4 per cent. Already in 1970, 18 free schools began a reform more or less similar to that adopted for State education. In 1973, subsidised free education included 102 "reformed" schools out of 425, i.e. 22.8 per cent. Thus, in the academic year 1973-74, there will be 309 "reformed" schools in French-speaking Belgium out of 820, i.e. 40 per cent at all levels of secondary education. In the Dutch-speaking part of the country, at the end of the 1972-73 academic year, 61 per cent of the State schools and 34 per cent of the Catholic schools had adopted the reform.

The intention of reformed secondary education is to provide all young people with equal opportunities for development. Its aim is to develop abilities rather than to constrain and select. The essential features are as follows:

Structure: 3 levels (a) observation (12 to 14 years of age)
(b) orientation (14 to 16 years of age)
(c) determination (16 to 18 years of age)

Curricula:
- Comprise common subjects (basic education)
  Special subjects
  Optional activities
  Catch-up courses
- Base instruction on practical topical problems and break down the barriers between subjects
- Are designed in terms of educational objectives and behaviours

Methods:
- Reformed education focuses on personal research and teamwork;
- Its aim is to facilitate the acquisition of a method of work, develop a sense of responsibility and create new relationships between the pupil and his peers, his teachers and his educators.

The class council and the psycho-medico-social centres

- The class council, i.e. all teachers for the same group of pupils, presided over by the head teacher, plays an important role in reformed education;
- It constitutes a means of individualising instruction and enables the teachers to adopt a concerted approach. The psycho-medico-social centres are closely associated with its work.

New evaluation

- Traditional examinations have been abolished. They have given way to the continuing assessment of pupils' abilities and capacities. For the pupil, self-assessment is one of the aims of reformed secondary education.

Discipline

- The aim of reformed education is to set teacher-pupil relationships in a democratic perspective which makes for greater participation by both sides and respects the authenticity of each;
- The rules of school life are therefore drawn up jointly by all on the basis of association in management.

Parent involvement

- Greater parent involvement in the educational community is encouraged. They are an integral part of the whole and their role is fundamental in this respect.

(ii) Primary education

In 1971, reform was also begun in primary education. The Ministerial Circular of 21st June, 1971(1) describes the underlying philosophy. The aim in a perspective of continuing education is:

- To teach less but to teach better;
- To form rather than to inform;
- To substitute ability for knowledge;
- To educate for living.

The following practical measures are recommended:

- Lighter curricula;
- More intensive use of the two special languages: mother tongue and mathematics;
- Evaluation by a pluridisciplinary team;
- Co-education;
- Collaboration by parents and the psycho-medico-social centres (P.M.S.) in the educational task;
- Tripartite teaching time.

The general reform of primary education also lays stress on group work, with a view to improving the collective and individual level of performance, on the personal participation and socialisation of each pupil and also on the co-ordination of teachers' activities having regard to the aims in view. As far as these activities are concerned, the Ministerial Circular of 11th April, 1973, on the pedagogical reform of primary edu-

(1) Ministerial Circular of 21st June, 1971. Subject: directives for the reform of basic education.

cation(1), defines the future role of the primary school teacher: he must be a leader, a mind-awakener, a team leader and a model of emancipation.

C. RETRAINING OF SECONDARY SCHOOL TEACHERS

In order to cater for this reform of primary and secondary education it became urgently necessary to establish continuing teacher training in the form of further training and retraining. The immediate question was to define the aims, methods and possible evaluation of this continuing training and to decide which bodies should be responsible. In fact, throughout the country and for all educational systems, it was retraining in subject matter and methods which first took a clear lead.

The most urgent need was met by organising retraining in the traditional form of conferences, information and study sessions, seminars, correspondence courses, televised instruction and practical courses in almost all disciplines including mathematics, mother language, technology, testing, computer science and audio-visual methods, with special emphasis on observation and evaluation, which are important tasks in reformed education.

The following are a few examples of retraining measures taken in Catholic education:

For primary education:

- Organisation of conferences for groups of some 40 to 100 primary school teachers in each case. These conferences are all on a particular theme, prepared in advance and participants are sent a questionnaire that serves as a basis for discussion. The aim is thus to "pool the research, ideas and experience of teaching staff".
- Introductory courses, e.g. an introductory course in audio-visual methods in the primary school, organised by the "Institut des Arts de Diffusion" (Institute of the Arts of Knowledge Dissemination);
- Monthly pedagogical meetings held in all primary schools under the authority of the head teacher.

For secondary education

- Regional "animation" by teams of secondary school teachers working in groups and pooling their teaching experience;
- Retraining in classical languages organised by the University of Louvain;
- Sessions on computer science organised by the I.C.H.E.C. (Institut catholique des hautes études commerciales);
- Creation of regional bodies for contracts and exchanges between research workers and teachers at secondary and higher levels, etc.

(i) Gaps in retraining

It was interesting to have the opinions of those primarily concerned, i.e. the teachers, regarding these various forms of retraining. A survey among teachers in reformed secondary education (free and State) revealed their criticisms and suggestions.

In free education(2), 60 per cent of the teachers regard their training as inadequate or non-existent: 62 per cent in the case of women, 55 per cent in the case of men.

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(1) Ministerial Circular of 11th April, 1973. Subject: pedagogical reform of primary education.

(2) An evaluation of reformed education by secondary school teachers, in "Humanités chrétiennes", No. 4, March/April 1973.

The main shortcoming in this training, according to these teachers, is the absence of information on objectives, the lack of practical guidelines, of methodological information and even of model lessons(!). The aspects of reform which gave rise to most comments were respectively observation (74 per cent), evaluation (52 per cent) and the choice of methods (43 per cent). The forms of "guidance" most recommended so far are the class councils, which received more than half of the votes from both men and women. These class councils, focused on the person of the pupil, are well in line with educational reform.

In State secondary education(1), the following opinions were given with regard to the kind of retraining wanted:

29 per cent of the teachers express no opinion;
17 per cent want regional meetings (exchanges between teachers, teamwork);
17 per cent want seminars based on reform;
14 per cent prefer practical retraining (correspondence courses on the various branches, audio-visual aids, etc.);
10 per cent want precise directives from the inspectorate;
9 per cent want training courses (audio-visual methods, corporal expression, group dynamics, non-directive teaching).

Also in connection with ways of providing appropriate retraining, the "Centrale Chrétienne du personnel de l'enseignement moyen et normal libre" (C.E.M.N.L.) (Christian Association of free secondary school and teacher-training staff) undertook a large-scale survey in May 1973 which yielded the following results:

- Correspondence courses are regarded as useless by 48 per cent of the teachers;
- Day courses are desired by 56 per cent of the teachers; evening classes are rejected by 63 per cent of the teachers and those held during the weekend and holidays by 65 per cent;
- Pilot schools are not wanted (47 per cent rejections);
- Regional meetings, training courses and temporary secondments are desired respectively by 58 per cent, 53 per cent and 54 per cent of the teachers.

When asked who should be authorised to organise and co-ordinate retraining, the teachers' replies were as follows:

- The National Education Council and the Centre for Educational Research were rejected respectively by 56 per cent and 53 per cent of the teachers;
- 53 per cent of the teachers wanted regional educational centres;
- 44 per cent of the teachers thought that the universities and the teacher training colleges should organise retraining <u>but</u> - and this is the interesting note in the survey - 63 per cent recommended <u>concertation between scientific research specialists and teaching practitioners</u>. This was very definitely the desire of the graduates (76 per cent) and less definitely that of the "regents"(2) (55 per cent). Academics took a very firm position here, since only 16 per cent had no opinion and one per cent regarded such concertation as pointless. These teachers are certainly not mistaken. It is quite certain that this form of operational research is the best kind of retraining possible.

(1) Survey carried out in May 1973 in all schools affected by reformed secondary education (French-speaking part of the country).
(2) The "regent" is a secondary school teacher (first cycle) who teaches pupils between 12 and 15 years of age.

(ii) Retraining for new attitudes

These traditional forms of retraining were thus regarded as inadequate not only by the teachers concerned but especially by the authorities who realised that the aims of reformed education demanded a profound change in teachers' attitudes. As D. Pidgeon notes(1), although the findings of research aiming to evaluate teachers' influence on their students' performance were not very conclusive, they showed that "measures of teacher behaviour are more effective in predicting student performance than information on qualifications and experience ... A number of research studies have been carried out in recent years which have supported the view that the attitudes of teachers - and the classroom practices they adopt as a result - are more important in determining student outcomes than the more material factors such as school buildings, size of class and the textbooks or apparatus provided".

This approach, i.e. changing teachers' attitudes, was firmly adopted by the Department of Further Training for teachers and educators of the Organisation of Studies (Ministry of Education and French Culture). A seminar held in October 1971 for all French-speaking State secondary school inspectors had moreover recommended among other things long residential courses for pupils, teachers, principals and inspectors with a view to changing teachers' attitudes. Hence the experiment of using group dynamics with a view to the psychological preparation of members of the teaching profession for the many changes they have to face, especially in reformed education.

Furthermore, there can be no doubt that the men of tomorrow in factory, administration and school, whether associated in the work of execution or elaboration, will no longer have a strictly hierarchical relationship but one of participation. Co-management will no doubt be the most current form of organisation in the next few decades. At the same time, isolated work, even that of the scientific research worker, will give way to team-work. Hence, in preparation, association in management was introduced in some 100 State schools in the French-speaking part of the country and, on 1st September, 1972, in all State primary and secondary schools in the Dutch-speaking part of the country.

Seminars in applied psycho-sociology were introduced in February 1968 by the Ministry of Education in connection with the retraining of secondary school teachers. At first, three seminars of this kind were held each year, then four. For the last three years, nine or ten sessions of this type have been held every year.

A seminar brings together 24 participants (two groups of 12) for five consecutive days and two or three months later the same people meet again for three days, each time at the residential training centre. The formula adopted is that of the "T group" or "basic group", with the difference that the members are teachers and that the aim is a change in the teaching-learning relationship. The timetable for the first five days consists of four plenary sessions, eleven small-group sessions (2 x 12 participants), four papers, six inter-groups, two experiments in preparation for two of the papers and a corporal expression session.

The main activity takes place in the small groups, which have no special purpose other than to get participants to communicate with each other as authentically as possible. The aim of the papers is to conceptualise their direct experience in these small groups or in the larger group or what they have brought to the group from outside. The subjects discussed are communication, attitudes and behaviour, authority and the affective life of groups.

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(1) Douglas Pidgeon. The Implications of Teachers' Attitudes for the Reform of Teacher Education. The Teacher and Educational Change: A New Role. General Report, Vol. I, OECD. Paris. 1974.

Communication is the most omnipresent form of relationship in teaching life. Its enormous importance is revealed and the principal causes of the difficulties, and even failures, of communication are demonstrated. Behaviour and attitude are distinguished in order to apprehend better the reactions of persons to other persons. Behaviour is what happens objectively - "photographable" or "recordable" - while attitude is what underlies behaviour.

Authority is no doubt the item most often challenged throughout contemporary society. Participants are shown the conflicts which can arise from the confusion between power and authority, the latter word being understood in its etymological sense: auctor, one who creates, who causes to progress. Power, on the contrary, is frequently nothing more than constraint and the preservation of older unchangeable and reassuring ways. Power is a manifestation of the death wish, authority a manifestation of the life wish. Broadly speaking, the present trend is from power structures to authority structures. The school, too, is evolving along these lines and endeavours to train human beings who are able to participate, to create, and who no longer just faithfully reproduce the thought of the teacher or always wait for some stimulus from higher authority before acting. Association in school management is also a step in this direction.

The affective life of groups might be defined as what is most profound in group "dynamics". The various existing theories are explained to participants, who recognise in these their experience at the seminar and also professional or other situations which they had not always fully understood. The aim of the corporal expression session is to heighten self-perception and to facilitate communication with others, who are better perceived as physical beings.

After these various activities, the bulk of which, it will be recalled, take place in small groups, participants have generally acquired a better understanding of "others" and a greater facility in approaching their own problems and in involving themselves more coherently in the situations they live. They feel disposed, not without a certain apprehension to modify their attitude towards their pupils, their colleagues and their superiors, and also, very broadly, towards those around them.

At the "refresher" session, the first meeting is devoted to an account of the difficulties encountered, the changes attempted, the successes achieved, etc., over the two or three preceding months. The refresher session is designed to provide participants with a knowledge of group-work methods such as Philipps 6/6, round table, beehive, working group-resonance group, discussion group, panel, think-tank as well as creative problem-solving techniques. The reason why this training in methods and techniques is given after sensitisation is that the teachers are then able to grasp the importance of interpersonal relationships in school work. Team-work gives rise to affective reactions which must be observed as soon as they occur so that they can be positively integrated with the evolution of the work and the group.

It should be noted, however, that all applicants for these seminars are not in a fit state for sensitisation when they enrol. They are therefore obliged to have an interview with a psychologist who can advise them whether they should postpone their application or abstain altogether or enrol for a purely technical course in group work. This latter possibility is in fact at present offered to secondary school teachers, who are given a much watered-down introduction to group phenomena but are nevertheless shown the main ones. They learn the appropriate methods, but the personal implications are reduced to their simplest expression. This type of training is given by two psycho-sociologists.

Since February, 1968, 32 courses have been held for almost 1,000 people: inspectors, principals, secondary school teachers, boarding-school administrators, primary school teachers and educators. For academic year 1973-74, the seminars on the impact of small-group dynamics on the teaching-learning relationship have been designed to cater for a broader mixture of teachers from various types of school and various kinds of education, people in key posts in school and administration, and educators. Thus, the first of the four seminars planned for the first quarter of this academic year will bring together:

- Secondary school teachers applying reformed education;
- Boarding or day school educators;
- Lecturers from secondary school teacher training colleges;
- Teachers in reformed primary schools.

The second is intended for:

- Inspectors;
- Principals of schools which have begun reform;
- Senior teachers in reformed primary schools;
- Administrators from reformed boarding schools.

(iii) Follow-up sessions

A great many of the teachers who have taken part in the seminars feel the need after a certain time "to return to source" since it is quite difficult to maintain a line of conduct when one is isolated in a larger group whose other members have not always enjoyed the same experience. In view of the great demand from teachers in this respect, it was suggested to all those who had taken part in the seminars that they group together and discuss solutions for the problems they met individually in their teaching. Over 250 agreed to take part in the follow-up sessions as they were called.

These two non-consecutive sessions organised regionally bring together about 20 participants and two discussion leaders. Their aim is group study of the problems participants meet in their daily experience as teachers, boarding-school administrators, supervisor-educators, senior primary school teachers, principals, vice-principals, inspectors or even psycho-medico-social centre staff. So far, a single session has been held for all applicants. The next session will be held after the academic year begins. At this initial session, after a short statement by the discussion leader to describe its aim, one or two problems are studied in sub-groups with the leader and summed up in plenary session.

(iv) Institutional analysis

Four psycho-sociologists are at present engaged on the institutional analysis of two secondary schools. The aim is to help to determine the institution's mechanisms of efficient and inefficient internal functioning and disfunctioning, and as a result to introduce a continuous change through a series of successive adjustments. Next year, they will study the problems raised by the class council in a number of reformed schools.

(v) Introductory courses in techniques of corporal and vocal expression

Three residential introductory courses were held during the academic year 1972-73 in the techniques of corporal and vocal expression, lasting five days each. Priority was given to all secondary school teachers, whatever their subject, working in reformed education and able immediately to apply expression techniques in their teaching.

Each course was devoted exclusively to the psychological aspect of expression:

- Capability for expression and creativity;
- Rediscovery of the natural possibilities of expression through the body and the voice;
- Rediscovery of the authentic in the exercise of sensation and in perceptions of environment;
- Controlled expression of such sensation;
- Realisation, through movement, space-time relationships and functions (of sensor-motor origin) participating in the organisation of thought and constituting the framework of communication (grammatical functions and categories);
- Personal actualisation of vocabulary;
- Implication of the "ego" in a recreated situation, in a text or inside a personage;
- General play in a given or selected situation, but with role exchanges for a better awareness of self and relative status;
- Preparation of composition (written expression) through deeply sensitised recreation of real life situations: creation of the need for expression under stress and, with it, the requirement of precision in the means to be used;
- Respiration on which oral expression is based - voice production, articulation, intonation, self-expression within a spoken text.

(v) Evaluation of change(1)

As we have said, the "training course" is intended to make participants more sensitive to psycho-social dimensions through their joint elucidation, with a consequent change of attitude. According to the responsible psycho-sociologists, the course redeploys the teacher in a new role, which he perceives more clearly, and helps him to accept participation. In most cases, teachers seem in fact to have been favourably impressed by these activities.

In some secondary schools where a great many of the teachers as well as the principal have taken such courses, the general atmosphere has changed and the teaching, too. Discipline becomes a very different matter. The pupils live more "maturing" situations; they have more initiative; they speak more freely of their problems to adults who listen to them; they have therefore practically no further need to divert these problems into some form of uproar. They prove capable of assuming their responsibilities. In a word, when treated as "persons", they behave like "persons". But much still remains to be done before this is the case in all schools.

The problem is whether it is possible to evaluate this change and when this might be done. In the first place it would be necessary to ascertain in what terms this change is expressed, for it is difficult to evaluate in terms of "measurement" or "magnitude". Perhaps all that can be done is to establish a relationship between a set of persons and a set of changes. Moreover, the subjective perception of change does not always coincide with the perception of the same situation as observed by another person. Representative

(1) Mariette Vanhamme and Marcelle Guilbert - "La dynamique de groupe comme préparation psychologique à l'enseignement rénové" - (Group dynamics as a psychological preparation for reformed education) - a 5-year experiment at the Belgian Ministry of Education - published in "L'information psychologique", No. 46, 1972.

samples should be worked on before, during and after the entire seminar; but the population would feel as though it were being manipulated and, in any case, it would be impossible to allow for all the variables entering into the attitude of change.

At all events, it would be interesting to have answers to the following questions:

- Is the change lasting?
- Was the change responsible for an understanding of and adjustment to the spirit of reformed education?
- Did the change introduce a spirit of innovation and was it responsible for dependence being abandoned?

The following observations are based on informal meetings between the psycho-sociologists and the parties concerned:

- That persons live through "situations of conflict" with greater facility than before and take them more calmly;
- Some have proved to be "very creative";
- Communication is more easily established with persons who have had the same experience than with others (hence a caste of "initiates");
- Not everyone is capable of change and some prefer to go back to a "traditional" situation;
- For others, dependence on the leader seems to take a long time to disappear.

(vii) Failures

According to the psycho-sociologists, failures, lasting opposition to the spirit of reform and to change, and the return to rigidity of status and a teacher-pupil relationship of dependency generally occur among those who came to the courses more under constraint and compulsion. This state of affairs strengthens their defences which are expressed by reactions of opposition or passive resistance. They regret traditional educational performance, strict discipline and a moral code which merely has to be applied.

The organisation of team-work also comes up against certain difficulties(1). According to the survey carried out among the various parties concerned, these difficulties lie mainly in the following directions:

- The initial training of teachers (special subjects that are difficult to integrate);
- The individualism of teachers often connected with their personal value as scientists;
- The partial overlapping of curricula;
- The mobility of the teaching body;
- The difficulties of the time-table;
- The shortage of premises;
- Some teachers' lack of a sense of security;
- Insufficient exchanges of experience and documentation;
- Overwork, which certain members of the teaching body (especially women) find difficult to bear;
- Shortage of equipment.

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(1) Reform of secondary education - 1973 results.

D. RETRAINING OF PRIMARY SCHOOL TEACHERS: CORRESPONDENCE COURSES AND CHANGING ATTITUDES

Very little has as yet been accomplished as regards the retraining of primary school teachers for new attitudes. However, it should be noted that the General Directorate for the "Organisation of Studies", in association with the "Education League" and the Centres for training in active education methods, have since 1972 organised six residential introductory courses in leadership and sensitisation techniques for some 150 primary school teachers.

During the 1973 summer holidays, ten primary head teachers took part in an introductory course on the theory and practice of group teaching organised by the "Centre for Group Dynamics and Institutional Analysis" of the University of Liège. During this course, participants had an opportunity to encounter various forms of group relationship and to evaluate their effectiveness. They also studied the group processes and methods of initiation into social life covered by the reform of primary education.

A small-scale but apparently very significant experiment will begin in September 1973. It concerns retraining for primary school teachers in their mother tongue and for a change of attitude through correspondence courses.

As we saw above from the survey carried out by the Christian Association of Free Secondary School and Teacher Training College staff, the correspondence courses envisaged as a means of retraining were rejected by nearly half of the teachers consulted. One of the criticisms made against such courses is the lack of contact with instructors and too great a dependence on books, with the consequent danger of becoming enclosed in an over-constricting academically-inspired system.

These reactions have induced those responsible for correspondence courses(1) to look for methods which are better suited to the already trained adult in order to try and make the correspondence course a communication and exchange system in the service of the teaching community; a system where teachers can talk to and help each other without any hierarchical relationships; a system where evaluation does not relate to the participants but to the effectiveness of the support in which the concepts of "pupil", "lesson" and "exercise" are replaced by concepts of "participant", "syllabus" and "worksheet". They refuse any attempt to use the correspondence course as a form of "documentation". In order to justify its educational quality, the correspondence course must comprise a permanent teaching relationship between the student and his teacher.

This is currently the aim of retraining for primary school teachers in their mother tongue. This course was initially intended to provide these teachers with language concepts which would underlie their teaching. However, the reform of mother-language activities in basic education implies a change in the attitude of teachers. Starting from the idea that, in association with other mass-media, the course might combine scientific retraining with a change of attitude, the first thing was to define its aims and work out a strategy, a summary of which is given in the following table.

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(1) "Retraining and further training of teachers through correspondence courses and other media", Ministry of Education and French Culture, Education by correspondence, January 1973.

MULTI-MEDIA PROJECT OF RETRAINING IN THE MOTHER TONGUE FOR PRIMARY SCHOOL TEACHERS (1972)

AIM	MEDIA USED	ROLE AND POINT OF INTERVENTION OF MEDIA	DURATION AND FREQUENCY OF USE	PRODUCTION OF DOCUMENTS
Sensitisation of teachers	Film	Covering the curriculum of the first and second years of primary school: presents a uniform set of language situations - see draft scenario	Introductory phase Duration: 45 minutes	Cinema service
Information	Correspondence Course	Constant and progressive use according to plan of subjects drawn up	about 45 syllabuses	4 teams of secondary and primary school teachers
at scientific level (acquisition of knowledge of language, structural grammar)	texts and self-corrected exercises	Development of the plan under study by four drafting teams		from the teacher training colleges at Couvin, Liège, Mons and Tournai
As regards the transfer of this knowledge into teaching	Accompanied by Slides Records	Reproducing oral structural exercises, real-life and/or visualised situations, etc.	(under study)	The staff of the teacher training colleges, but collaboration also open to all teachers who wish to take part in this research work
	Feedback: Written and/or tape-recorded work (mini-cassettes)	(under study)		
Training of teachers in applying the reformed French curriculum	Video tapes plus an accompanying document to facilitate discussion	Group-work documents: real-life situations - for working groups operating in schools equipped with closed-circuit TV	Occasional use: about 5 tapes to begin with	Couvin Teacher Training College
Permanent teaching assistance for primary school teachers	Permanent telephone service which records questions	Immediate oral answer or deferred written answer	(under study)	

In the light of the aims in view, certain principles of action were defined. It was accordingly decided:

- To advocate a lucid reform without compromising the outcome by over-enthusiasm;
- To be always pragmatic; to take note of the reactions of a first experimental group of 500 to 600 primary school teachers so as to alter the approach if necessary;
- To use all technical resources: preparatory films, slides, recorded sound or video-tapes, records, strip cartoons, meetings, etc.;
- To associate language training with new attitudes, each making the other acceptable;
- Not to distribute facts but to associate in the same research those making up the course and those following it; to increase the number of exchanges;
- To associate the teacher training colleges with the making up of the course so that initial teacher training derives immediate benefit from it;
- To propose to those attending the course work in which their colleagues and pupils are systematically involved.

The course will lead those attending it to carry out a survey of pupils' reading, to study the language of the Belgian child and to show slides and play recordings of non-directed dialogue in classrooms and schools. In order to facilitate change, the course will provide teachers with useful documents (cards for situation-based learning, list of addresses, stimuli). It will enhance initiatives by publishing them. It will be made lighter in tone by humorous cartoons. It will make many references to foreign countries in order to create the feeling that reform is at international level. Video-recorded activities will be used as a point of departure for meetings of teachers from the same region.

In order to avoid any neo-formalism (already visible in the organisation of team-work and in structural analysis), the course will stimulate perceptions through theoretical and practical studies. The determination of objectives, their translation into terms of observable behaviour and the verbal interactions in a French language class will, for example, be studied systematically on the basis of documents.

It is premature to try to sum up this activity, except perhaps on one point: the making-up of the course is in itself a factor of reform since it is not entrusted to specialists but to mixed teams of primary and secondary school teachers, lecturers from the teacher training colleges and teachers in the practice schools, i.e. those responsible for the initial training of primary school teachers. The latter draws immediate benefit from the renewal of teams through the research and work carried out jointly.

E. THE WORK OF THE "OFFICE BELGE POUR L'ACCROISSEMENT DE LA PRODUCTIVITE" (OBAP) (Belgian Productivity Office)

Attention should be drawn to the outstanding work done since 1962 by the OBAP (Belgian Productivity Office), which is a private establishment recognised as of public utility and managed jointly by the social partners (State, Federation of Belgian Industries, trade unions). The Belgian Productivity Office was given the task of contributing to the country's economic and social development at two levels:

- At economic level, by facilitating achievement of the targets of the economic growth programme especially through action on the quality of the factors of production and on the quality of these factors combined;
- At social level, by stimulating, organising and providing material for the dialogue between the social partners (employers' associations and trade unions) on the problems raised in the more or less long term by economic progress and the conditions in which it is accomplished.

For its action on the quality of the factors of production, the OBAP turned to the authorities responsible for secondary education in order to see what kind of assistance business circles could give education to help it to meet its new requirements. In a manner of speaking, the main purchasers of the "finished product" tell the teachers their new specifications. The exchanges of views between men from industry and men from education are very interesting from many angles.

The first point is no doubt their realism. Real people who take young school-leavers to work with them explain their difficulties in inserting the newcomers into the reality of working life for which the old educational structure and the old teaching habits have ill prepared them. They want young men or women capable of working in teams, sharing their knowledge and not keeping it jealously to themselves. They would like these young people to have had a more pluridisciplinary training broadening their outlook, eliminating subject boundaries and thus enabling them to tackle any problem. They would like to find themselves dealing with adults who are able to take initiatives and to react creatively to the problem situations they encounter.

The teachers' discussions in small groups are recorded in reports presented at the end of the session. They are asked to see what can be changed immediately in classroom life, working methods, etc., in order to move in the direction desired. All the proposals made in this way by teachers from the two categories of education since 1964 contain a wide variety of ideas which have been incorporated into reformed education.

But above all, this work has triggered off the movement which made many teachers accept the necessity for change. With the agreement of the General Directorates of Secondary Education (State and free), an experiment was launched whose first aim was to convince teaching staff of the need to make allowance in their teaching for the changes in economic and social life.

In technical education, many briefing, study sessions, seminars, visits to firms and so forth have been organised for teaching staff. Action in general secondary education takes the form mainly of three-day residential seminars for teachers, principals and certain inspectors. The number of participants varies between 30 and 60 according to the region. Efforts are made to obtain the presence of managers or other senior executives as far as possible. Information is given during the first day in the form of papers which are each followed by a discussion between the audience and the speaker. These papers are presented by eminent persons from other spheres such as university teachers, representatives of industry, experts from bodies such as the Economic Planning Office, the trade unions, etc., and have the merit of opening up unaccustomed horizons to men who are generally confined within their speciality and too absorbed in their daily tasks to keep abreast of the major trends in economic and social development.

After these papers, participants are divided into working parties of about fifteen persons. Each working party is invited to discuss, on the basis of the information given, means which the teachers themselves can use to change their teaching. It has to

present a report on its deliberations in plenary session. Nearly 2,000 teachers, principals and inspectors have taken part in 38 three-day residential seminars.

(i) Seminars for inspectors

In order to strengthen the impact of the teachers' seminars on all educational institutions, three-day seminars were organised for members of the State Inspectorate and for members of the Catholic Education Inspectorate and were attended by 136 inspectors. The following subjects were discussed:

- Economic and social development and the changes in outlook and behaviour which it entails;
- Changes in secondary education in the light of economic and social development - teaching problems.

The importance of "group work" in education was stressed at each seminar and led to the organisation of sessions for small groups (about 15 people) on the methods of conducting meetings. The subject was gradually broadened to cover directly the psycho-sociology of group work. This activity has met with considerable success, especially since the launching of educational reform. Nearly 350 secondary school teachers and principals have taken part in 23 sessions of three half-days each on "the methods of conducting meetings". Some 670 teachers and principals have taken part in 54 six-day sessions on the "psycho-sociology of group work".

(ii) Management

As management theories have been widely disseminated over the last few years, the OBAP wished to try an experiment with a new type of residential seminar reserved for principals and devoted to:

(1) A review of the best known management theories;
(2) Examination of the possibility of their transposition to "school organisation".

Some 375 head teachers have taken part in 19 three-day residential seminars.

To conclude, we would mention that a working party including architects, town planners, psycho-sociologists, economists and educationists has begun a study on the school of the future. In June 1972, it presented the plans and a model for an educational centre meeting the demands of modern pedagogy.

F. RETRAINING FOR TRAINERS OF TRAINERS AND INSPECTORS

One of the most urgent tasks was to provide for the retraining of teachers' trainers, i.e. the teachers in the teacher training colleges for nursery, primary and secondary school teachers. They were generally the first to benefit from the various types of retraining described here. An original form of retraining sometimes used is the educational team. For instance, in April and May 1973, five-day residential courses were held for the retraining of those responsible for teaching French, the mother tongue, in teacher training colleges. Four participants from each establishment were invited to take part in these courses including a teacher of pedagogy and a teacher of French from the practice school. In primary school teacher training, the composition of the team was the same except that the French teacher from the practice school was replaced by a primary teacher from the school.

It appears from various surveys that inspectors do not have a very wide audience among teachers. It must be admitted that the inspector has in fact usually confined

himself so far to inspecting lessons in his own special subject and to giving teachers marks and advice. In the present state of education, a role such as this is particularly obsolete and does not by any means satisfy the requirements of reformed education or the hopes of teachers. The majority of the inspecting body are in any event aware of this.

At the request of the Minister himself, all the inspectors of State secondary and higher education assembled for a seminar on the 6th and 7th of September, 1973, with a view to redefining their role. It was decided that another seminar would be held before the end of the present calendar year for the purpose of clarifying the new role of the inspector as defined in its broad lines. Within as short a time as possible, the essential task of the inspectors will be the general supervision of schools. They will work as a team and will be responsible within a specific geographical area for the efficient operation of the entire educational system, assessing its development, its adaptation, the way in which it meets the needs of the school population and the value of the training it provides. Needless to say, this implies a complete change in the role of the inspectorate which will doubtless not be achieved without difficulty and will demand the virtual "unconditioning" of certain inspectors.

G. INITIAL AND CONTINUING TEACHER TRAINING

What is being done in Belgium in the field of continuing teacher training stems from the basic idea that all training is only the first stage in a process which should be spread over the teacher's whole career. In so far as the continuing training at present being worked out can define its aims, methods and evaluation techniques and set up the essential infrastructure, it will inevitably have repercussions on the length, content, methods and evaluation of initial training.

It is already certain that the longer initial training demanded by some people is not inevitable. Thus, at the present time, the length of primary school teacher training is the same as for first-cycle secondary school teachers: two years after secondary education. After the 1st of September, 1974, it will also be two years for the training of nursery school teachers. Therefore, after that date, pupil teachers can take the same basic course in the training colleges whether they intend to teach in a nursery school, a primary school or a secondary school. The divisions between these different types of teachers will thus be gradually eliminated since they will learn to know each other better right from the start and to collaborate with each other. The task of the teacher training colleges should no longer be to train future teachers but rather to help them to train themselves (assisted self-training). This new concept of the teacher's role has already had repercussions on the concept of the initial training of primary school teachers.

(i) Group leadership in primary school teacher training

The new curriculum for primary school teacher training(1) includes an optional course entitled "group leadership" which covers the following activities:

- Games, sports rounds, dances;
- Manual and plastic activities;
- Musical activities;
- Corporal and vocal expression.

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(1) "Primary School Teacher Training - Provisional Curricula; November 1971", Ministry of Education and Culture.

The aim of this course is to prepare the future teacher for the theoretical, and especially the practical, aspects of pedagogy as applied to the study of inter-individual relationships in a group of pupils, although without neglecting the study of teacher-pupil relationships. The intention is therefore:

(1) To introduce the teacher to methods of creating or improving relationships between peers;

(2) To teach him to study and solve the problems to which these relationships give rise;

(3) To persuade the future teacher to take advantage of the observations made and the experience gained in order to change his attitude in his own teaching.

This optional course is a good opportunity for preparing primary school teachers to run the Wednesday afternoon socio-cultural activities organised in the context of the five-day week. However, the scope of the course is not restricted to this aim alone. Being a "group leader" in the sense currently given to that term no doubt means that one has learnt techniques which have now proved their worth but, above all, it means that one is imbued with a spirit impregnating the whole personality and reflected in a specific behaviour, at least in front of one's class. So it would be wrong to imagine:

(1) That knowledge of techniques alone creates a leader;

(2) That someone who is not a leader in spirit and training can improvise leadership for optional activities;

(3) That someone who really is a leader will confine his leadership to an optional course.

The attitude of the educator and the forms of learning used will be non-directive.

(ii) Evaluation of primary school teacher training

The traditional examinations for primary school teachers were abolished as from academic year 1970-71 and replaced by continuing evaluation. As stated in the Circular on "The supervision of studies in primary school teacher training"(1), the traditional examinations are no longer an adequate means of assessing whether the students sitting them are fit to become teachers. The criteria of assessment will no longer concern only the intellectual qualities or acquired knowledge of the future teacher. They should also permit an evaluation of the socio-affective aspects of his personality, his intellectual attitudes and his professional capacity.

In order to achieve these aims, it was decided that an assessment would be made of each student by all those involved in his training (inspector, training college principal, teachers, teachers in the practice school, educators, course directors) covering not only the development and quality of his learning but also his psycho-social behaviour during the period of training. The main point is to assess the behaviour of the future teacher towards children, in comparison with his peers, towards the advisers responsible for training and towards pupils' parents, to rate his social qualities, his team spirit, his desire to co-operate, his devotion and his punctuality, all of which are essential qualities in a good educator.

All these assessments are included in a file which also contains the student's personal opinions. The student can in fact consult his file on the spot, discuss its contents with the principal of the training college and with his teachers, and add any remarks he deems fit. It should also be noted that it is an educational team consisting

(1) Ministerial Circular of 12th September, 1972. Subject: The supervision of studies in primary school teacher training (2nd cycle - 1/107 - 7/2459).

of the inspector of primary education, the principal of the teacher training college, members of the teaching staff, the senior teacher and other teachers in the practice primary school which decides, after examining the file, whether the applicant should pass or fail.

One innovation is worth stressing: an applicant whose training shows no serious weaknesses is deferred. He is no longer obliged to repeat a whole year but can take some additional tests at the end of the first term in the next academic year after some extra training. The jury specifies the activities in which the applicant needs further training, suggests a curriculum for him and can exempt him from certain tests.

In order to help the members of the educational team to prepare this file as well as possible, an analytical guide has been drawn up giving a whole list of observable behaviours and classifying them according to:

(1) Socio-affective aspects of the personality;

(2) Intellectual attitudes;

(3) Evaluation of professional capacity.

This form of evaluation gives excellent results and is applied to the training of all primary school teachers. It will shortly be extended to all other types of teachers except university-trained second-cycle secondary school teachers.

ANNEX I

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ANNEX II

POSSIBLE RESEARCH AND DEVELOPMENT ACTIVITIES

1. Study of the evolution of pupil-teacher attitudes towards certain subjects during their initial training (continuous assessment - association in management - team-work - the class council - breaking down the barriers between disciplines - programmed instruction, etc.). Special comparison of this situation at two specific points: on entering and on leaving the training college.
2. Same study carried out at two other points: on leaving the training college and after five years' teaching. Investigation of the causes which may have affected developments.
3. How to make the educational file give as clear an account as possible of the development of pupil-teacher attitudes.
4. Evaluation of initial teacher training. Who should carry it out - when - how?
5. Tentative evaluation of the contribution of a new course (expression techniques) towards the psychopedagogical training of teachers.
6. Preparation of continuing training and consideration of its incidence on initial training (selection - length - content - form - evaluation).
7. Operational research on ways of "unconditioning" pupil teachers from their previous educational experience when they enter the training college.
8. How students perceive their teachers before and after the latter have taken part in a group dynamics seminar - application of the Barret-Lennard text.
9. Application of the same test to the teachers themselves.

FRANCE

A. Experiments in Continuing Teacher Training

by

Gilles Ferry

B. Experiment of the College of Secondary Education at Marly-le-Roi and its Implications for Teacher Tasks

by

Josette Poinssac

A. Experiments in Continuing Teacher Training

by

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CONTENTS

Summary 33

Introduction 34

I. Continuing Training of Primary School Teachers 35

II. The "Service d'Aide Pédagogique" of the Val-de-Marne Department 37

III. Training of Technical College Teachers 39

IV. The Secondary School Teacher Training Centre at the "Institut de Didactique et de Pédagogie" of the University of Provence 40

V. Teacher training assignments in economic environments 42

VI. Courses organised by FOEVEN (Fédération d'oeuvres éducatives et de vacances de l'Education Nationale) grouping the regional associations (AROEVEN) 43

VII. The "Université Péda ogique d'Eté" (UPE) 45

VIII. The "Centre d'Information à l'Education Nouvelle" 47

IX. The "Centres Intégrés de Formation de Formateurs d'Adultes" 49

Conclusion 50

Bibliography 53

SUMMARY

The innovative experiments studied in this report do not form a representative sample of all the new approaches to teacher training in France. These are no more than a few examples selected for their diversity: diversity of the conditions in which the innovations were set up, variety of the models, disparity in the ways in which they fit into institutional structures.

In examining each innovation in turn, we shall attempt to discover its distinguishing features, i.e. what makes up the originality of its contribution to the problems of teacher training. We shall then endeavour to outline the converging and diverging trends emerging from the comparison of these experiments.

At the end of this study we shall have to consider whether a new model of teacher training is now being built up from disparate efforts, each focusing on some more or less limited aspect of training. To speak of a new model would mean that the dynamic of the innovations in various places would not be only a negative reaction to the traditional training model, but would also be an appropriate response to the latent or recognised needs of society.

INTRODUCTION

What meaning can today be ascribed to the concept of continuing training of teachers? Traditionally, teacher training is envisaged from two angles: academic - sometimes termed scientific - training to enable the future teacher to acquire competence in a field of knowledge, and pedagogical training to enable him to master the educational process.

The concept of training is at present taking on new meanings as a result of being more and more widely used in all sectors of activity: occupational, social and leisure activities as the main way of adapting to the many transformations our society is undergoing. The word training thus denotes any organised action designed to bring about a more or less radical restructuring of the way in which the person functions: in this sense training affects a person's ways of thinking, perceiving, feeling and behaving. As the case may be, it is designed as more vocational - defined in terms of the competency to be acquired and the roles to be assumed - or as more personal(1); in extreme cases it would be a therapy.

The vocational-personal approach is tending to take the place of the academic-pedagogical approach, but at the present stage the two perspectives overlap and as a result training means different things to different people. This also applies to the concept of continuing training which for some people refers to in-service training supplementary to the basic training acquired before entering the profession, while for others continuing training is an all-embracing concept covering all training received in the course of a career, including initial training.

These developments, the discussions to which they give rise, and the experiments oriented towards new systems and new models are all related to the changes affecting the role of the teacher and the opposition they arouse. They reflect a power struggle between various bodies and various ideologies which, either inside or outside public education, seek to impose their concept of teacher training. The stakes are so important that this problem has ceased to be the prerogative of educational specialists. For the solutions chosen and broadly applied in the training of teachers depends on the very future of the school, which means to a large extent each person's fate as an individual and as a member of the community. As a result this question is the object of proposals and projects emanating not only from the public authorities and educational movements, but also from trade unions, employer's associations, political parties and popular education associations.

The following analysis of experiments will deal with five points:

Institutional structure within which the experiment was designed and implemented: training site, link-up of supply and demand (volunteers, selection, evaluation and certification).

Objectives of the experiment: general objectives and transitional objectives.

Modalities and models: organisation, proportions and relationships between theoretical training and practical training. Use of models, training action model, technology used.

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(1) Without direct reference to occupational situations.

Evaluation of the experiment.

Trainers: their status, role, recruitment and training.

It is obvious that these various points are closely interrelated. In each case they will be distinguished from each other in terms of the specific arrangements of the experiment and the information which could be collected.

The following experiments will be considered in turn:

A. Primary Education
- Continuing training of primary school teachers.
- The "Service d'Aide Pédagogique" of the Val-de-Marne Department.

B. Secondary Education
- Training of technical college teachers.
- The secondary school teacher training centre at the University of Provence.
- Teacher training assignments in economic environments.
- Courses organised by FOEVEN (Fédération d'Oeuvres Educatives et de Vacances de l'Education Nationale) (Federation of Educational and Holiday Institutions).

C. Inter-category Experiments
- The "Université pédagogique d'Eté" (Summer School of Education).
- The "Centre de Formation à l'Education Nouvelle" (New Education Training Centre).

D. Continuing Education
- The "Centres Intégrés de Formation de Formateurs d'Adultes" (CIFFA) (Integrated Centres for the Training of Trainers of Adults).

I. CONTINUING TRAINING OF PRIMARY SCHOOL TEACHERS

A ministerial circular of June 1972 instituted continuing training for primary school teachers in application of the principle adopted at the outcome of negotiations with trade unions: in the course of their careers, all established primary school teachers are entitled to full-time training equivalent to one school year.

The training plan implemented provides for facilities differing both in duration and in type, "so that training is continually adjusted to real needs". Within this framework, the "Academie" authorities, the principals and teachers of colleges of education and the representatives of primary school teachers are to draw up an appropriate plan for each department.

During this period of gradual implementation, continuing training will be available to all established primary school teachers, with the exception of those trained in a college of education within the past five years and those who are over fifty years of age.

Two kinds of training courses have been organised since the beginning of the 1972 school year:
- Three-month courses, during the term when student teachers from the College of Education are doing their teaching practice, thereby releasing a number of teachers from their classes;
- Six-week courses during which the teacher's place is taken by a substitute teacher.

The aims of these training courses have not been stated. The circular merely indicates that "any teacher training activity must be linked to an analysis of the requirements of these teachers". It must, consequently, include some channel for the formulation of demand, identification of requirements as well as concertation on aims and curricula between the trainers and the teachers to be trained.

From the plan drawn up in one department it seems that the proposed six-week training courses concentrate on pedagogical improvement in a given discipline. Teachers can choose between four kinds of training courses with the following as main subjects: mathematics, linguistics, general cultural activities, English. However, in order to "reconcile the demands of a specialised training available to each according to his personality and wishes and that of a general training essential to every good teacher" each type of course involves the following compulsory activities:

- Training in physical education and sports;
- Supplementary training in the main subject: "French, mathematics, general cultural subjects, educational psychology".

The circular from the Inspector of the "Academie" presenting this plan stresses that there is room for improvement: "The system instituted has been given serious, even meticulous, preparation. But, with the passing of time, it will have to be adapted in order to meet, to the best of its abilities, the training demands of established men and women teachers in the department. The remarks, criticisms, comments and suggestions made by those taking part in this year's training courses will be taken into account."

The two kinds of training courses proposed in the ministerial circular may be outlined as follows:

Three-month course

- Preliminary phase (one week): the student teacher is settled into the class, a schedule of work is jointly drawn up.
- Phase 1: divided into groups of not more than ten participants, the trainees work for one week under the Departmental Inspector in his "circonspection" (sub-district) with assistance from teachers in the Colleges of Education. This involves "identifying and formulating needs", visiting schools, analysing educational achievements, drafting reports.
- Phase 2: four weeks at a College of Education, with the participation of Departmental Inspectors. After drawing up a work schedule, this phase is given over to studying "educational reform in its various aspects: teaching methods and content, teacher-pupil relationships, continuous observation, school life, relationships with parents, etc.".
- Phase 3: return to the sub-district for one week, in the same structure as in Phase 1. The aim is to "ascertain to what extent the concepts acquired and the points of view discovered in the preceding phase shed new light on the realities of their profession". Each trainee may take up specific points in the class in the presence of other members of his group.
- Phase 4: return to the College of Education in the same conditions as in Phase 2, for four weeks. Group activities and specialised activities in small groups.

- Phase 5: one week at the College of Education and in the sub-district to evaluate the training and "organise action to be taken to introduce changes into teaching practices".

Six-week course

This consists of two phases, similar to Phases 1 and 2 of the three-month course.

Phase 1, in the sub-district, lasts one week, while Phase 2, at the College of Education lasts five weeks. The courses focuses on a particular aspect of educational reform (methods, content, etc.).

Lastly, the ministerial circular indicates that training activities may provide impetus for establishing or strengthening teaching teams. Assigning several teachers from the same school to the same training course is recommended as a means of achieving this.

Organising the continuing training of primary school teachers is a large scale enterprise. One may expect that achievements will be very unequal in their impact on teaching practices, and their contribution to what the circulars refer to as "educational renewal". As regards the concept of continuing training which emerges from the texts and its first known applications, it appears:

- That this training is in the traditional "academic-pedagogical" line. Continuing training concentrates, on the one hand, on up-dating knowledge in the various subjects, and on the other, on giving serious thought in pedagogical terms to teaching practices;
- That emphasis is placed on a closer link between theory and practice, conceptional knowledge and observations and activities in the field. The alternative phases in the Colleges of Education and in the sub-districts, the concern that the training acquired during the course should lead to innovations in the classes of each trained teacher, the combined and successive participation, the inspectors and teachers from the Colleges of Education, all work towards this end. It remains to be seen in what conditions and on the basis of what kind of analysis problems of teaching practice can be stated and solved by recourse to new concepts and new methods;
- That the pattern of training activities laid down by the Ministry is both structured and flexible. It is structured in the way the training courses are fitted into the institutional set-up and controlled by the academic hierarchy - inspectors, principals of Colleges of Education - and in its scope focused almost exclusively on the school. It is flexible to the extent that content and procedures are determined on the basis of expressed or supposed needs of the participants.

II. THE "SERVICE D'AIDE PEDAGOGIQUE" (PEDAGOGICAL ASSISTANCE SERVICE) OF THE VAL-DE-MARNE DEPARTMENT(1)

Under the ministerial instructions on educational reform (directives on teacher training in Colleges of Education, continuing training of primary school teachers, tripartite division of school time, general cultural subjects...) and on the initiative of

(1) Intended for primary school staff teaching in pre-primary schools, primary schools and type III classes (also called transition classes) in Colleges of Secondary Education (first cycle).

the "Academic" Inspector, an education team was set up in the Val-de-Marne headed by a Departmental Inspectress of National Education, in collaboration with teachers from the Educational Science Department of the University of Paris VIII (Vincennes), ten other inspectors in the Val-de-Marne, two psychologists, ten educational counsellors (French, mathematics, educational psychology, plastic arts, audio-visual methods).

The participants are teachers, principals and inspectors and are volunteers. They are released from their duties for the duration of the training periods.

The objectives defined by the team are as follows:

- By means of "encounters", to counteract the feeling of isolation and develop in all the ability to communicate;
- By direct participation of university teachers, to provide an opening onto higher education;
- By listening carefully to the participants, to attempt to determine current teaching needs, to forecast future ones, to prepare for the pedagogical autonomy of first-level establishments and their integration into community life;
- To organise visits to classes, crêches, and educational action groups;
- Through practical experience, to make the teachers familiar with audio-visual methods, corporal expression, with handicrafts workshops, teaching French to foreign children, modern mathematics.

On its inception in 1969, the work of the service was focused on teachers of transition classes. Thus during the years 1969 and 1972, teachers were able to take part in a continuous two-week training course (group dynamics, audio-visual methods, educational psychology, study of the environment, class visits, corporal expression).

In 1971-72, 150 principals of Val-de-Marne primary and pre-primary schools, divided into ten groups, attended a 13-day training course, organised as follows:

- Group dynamics: four consecutive days during the first term;
- Audio-visual methods: three non-consecutive days, at intervals of approximately one month;
- Reflection on current problems: three non-consecutive days organised by Departmental Inspectors;
- Case Study: one day with the same leader as for group dynamics;
- Evaluation: during the month of May, the 150 participants met for two days of training evaluation in small groups.

In 1972-73, a training and information cycle was organised for primary school teachers teaching in specialised education sections.

Since the beginning of the 1971 school year, the audio-visual department has gradually been set up. Teachers were able to take part in the six-week intensive training courses. A grant from the Val-de-Marne "Conseil Général" covered the purchase of a considerable amount of equipment. Three educational counsellors have been appointed. Their work has concentrated mainly on the groups of principals and transition-class teachers.

In their final evaluation, participants stressed the personal training they had received:

> "All (or most) of us are conscious of some enrichment consisting not so much of the specific knowledge or the techniques acquired during these days, but arising from the fact that we feel more capable of reflection, analysis, knowledge of others ... in short, a certain maturity which can only be beneficial in our relationships with the children, their parents and above all, with our assistants".

37

The collaboration between the "Academic" services and a University Department (Educational Science) made it possible to combine activities focused on educational problems and those focused on the person and role of the teacher. With regard to audio-visual techniques, the two different approaches used by academics and practitioners encouraged critical thinking on their use as well as their integration into teaching practice.

The element of personal training in a group situation appears here as the specific contribution of the university body in the social psychology perspective.

The initiative taken by the Department of Educational Science at Vincennes indicates what role the University could play in the training of primary school teachers. But it remains a prototype, as no institutional measure or financing is available to extend this experiment.

III. TRAINING OF TECHNICAL COLLEGE (CET) TEACHERS

A training plan for technical college teachers has been operating since June 1973, and applies to all categories of teachers of general and practical subjects. It is linked to a re-indexing of the CET teaching body and is therefore a collective advancement scheme.

A May 1973 circular addressed to the Rectors outlines organisation resources. The aim is "to adapt the knowledge and methods of these teachers to developments in technological education".

Training covers three or four months following a six-phase pattern. Alternately:

- "Meetings" of staff in all disciplines in the one institution (2 x 1 day);
- Sessions bringing together 15 to 20 teachers of the same discipline from several CET's (2 x 1 week);
- Individual or small group work. Teachers are required to write a paper which is taken into account in the "evaluation of what has been learnt from the training". This paper is sent to the chief inspector under cover from the principal.

"The Rector will issue an attestation on completion of the whole training course and one of the copies forwarded to the central administration will justify the progression allocation of the new indices".

The technical education inspectorate is responsible for this training. Some phases are led by inspectors with the help of principals and directors of practical work, others are led by "teacher-group leaders" seconded for the purpose. The latter are recruited at national level from among volunteer teachers on the basis of dossiers containing the opinion of principals and rectors. Their training takes place in the "Ecoles Normales Nationales d'Apprentissage" (National Vocational Teacher Training Colleges). It centres on contents, teaching methods, the use of the various media, the leadership of adult groups.

Training seems closely integrated into the institutional hierarchy. It is the institution which devised the training plan, and those responsible - the inspectors, principals and directors of practical works - are simultaneously the training authorities, the trainers, the evaluators and the users. Training takes place on the scene of professional activity. Thus there is no standing back - neither as regards the place nor the actors involved.

IV. THE SECONDARY SCHOOL TEACHER TRAINING CENTRE AT THE "INSTITUT DE DIDACTIQUE ET DE PEDAGOGIE" (IDP) (INSTITUTE OF DIDACTICS AND PEDAGOGY) OF THE UNIVERSITY OF PROVENCE

The IDP is a University institute. The secondary school teacher training centre, which is part of it, is involved in three sorts of interdependent activities:

- Initial training of students in all disciplines intending to become teachers;
- Continuing training for serving teachers;
- Educational research on secondary and higher education.

The Centre was created by a team of psychology teachers from the University of Provence. It provides non-compulsory training facilities for student-teachers in the various education and research units (UER) and for serving teachers. This initiative has specifically university objectives, stated as follows:

- "To enable the University of Provence justifiably to claim, at the appropriate time, to be assigned the responsibility for teacher training centres, in preference to any other University in the region, or any other parallel or rectorial bodies";
- "To enable the University of Provence to set against any conception of such a Centre that it might find inappropriate the possible modifications or a different design based on achievements, research and a certain public knowledge of these activities";
- "To contribute to the University of Provence's work on continuing training by experimenting with training activities for teachers and various administrative staffs of the Ministry of National Education".

Strategic objectives are consequently linked with research and innovation and ideological objectives: teacher training is seen here as highly relevant to the orientation of the school system and the role of the university.

Initial training

This training is given in connection with a "value unit" (credit) in general educational psychology which students can take as an option to fulfil the requirements for a specialised first degree. The aim is "sensitization to the general problems of teaching practices". Activities are practical and theoretical:

- Use of techniques for observing school situations (lessons, class councils, use of different methods);
- Simulation exercises (marking papers, case studies, role-playing, etc.);
- Informative elements from child psychology, psychology of learning, sociology.

During the last term students have the opportunity of studying in depth problems such as evaluation, communications in class, sociology of education.

One of these activities, class observation, was used as a training method combining contact with the realities of school, the handling of instruments of observation and analysis, and the use of psychological and sociological concepts. The basic idea is to learn teaching practices in a non-normative way within a system of relationships where co-operation is established between teachers, students and educational psychologists. At first the classes observed are those of teachers who have requested assistance from educational psychologists in helping them to solve a particular problem. The student-

teachers construct and use observation grids appropriate to the type of problem to be solved. The result of these observations provides material for collective thinking on the part of the student-teachers, the educational psychology instructors and the teachers of the class. Feed-back to the teacher, assumptions on the meaning of phenomena observed analysis of educational aims and strategies, and confrontation of models observed in the various classes all help to define the approach to the act of teaching, thereby benefiting the teacher in service as well as the student-teacher.

Continuing training

The problem of the continuing training of teachers has been raised by the Institut de Didactique et de Pédagogie in relation to the different kinds of continuing training provided by the various UER. The Institute provides specific training along three main lines:

- A pedagogical concertation workshop seeking to link up training and research on the one hand and theory and practice on the other. Concertation takes place on the scene of teaching activities and revolves around problems encountered by teachers in practice. It pre-supposes the existence of an educational team bringing together motivated teachers for joint thinking on their aims, the co-ordination of their actions, the exchange of information, the harmonization of activities vis-à-vis the pupils, the administration and the parents. Furthermore, this concertation centres on some aspect of educational research subject to scientific control in which the teachers take part. Evaluation of the teachers' training is partially merged with measuring the effects of concertation, i.e. instead of considering formal attainments, it consists of noting progress in teaching practice.
- A relationships analysis workshop, using the methodology of Balint groups: institutional and socio-affective analysis of the professional relationship experienced by the participants. Alongside this continuing activity, there are also activities designed to encourage communication, co-operation, etc. as well as a seminar on case studies using various interpretative models.
- Seminars for participation in educational research seeking to determine the kinds of research to be undertaken. Teachers outline the problems they encounter in their teaching. On this basis, the development of methodologies and the conduct of research are done jointly by researchers and teachers.

This model for the initial and continuing training of teachers is characterised by the fact that it is psychological and not "psychopedagogical" - the latter term being interpreted as meaning the light that psychological knowledge can shed on the act of educating. It is psychological in that the analysis of behaviour, attitudes, and procedures is both the special instrument of training and the special attainment which the training is to provide: analysis is taken here in the broad sense, i.e. specifically using or associating with each other interpretative models of psycho-analysis, social psychology, and institutionalist trends, sometimes by means of a clinical approach considering the situation as a whole, sometimes by means of an experimental approach concerned with controlling and measuring. Training implies the use of analysis, identifying problems, as a means of sensitising, returning the trainee to his own problems and the resources at his disposal for solving them, helping him to evaluate the approach. But, above all, training is training in analysis; through the appropriate structures, the aim

is to ensure that this analysis can be carried out individually and in interaction with others, can be improved and made more rigorous. Here vocational training is organised around personal training.

V. TEACHER TRAINING ASSIGNMENTS IN ECONOMIC ENVIRONMENTS

As of the 1971-72 school year, training assignments in economic environments have been arranged for teachers in several "Académies" on the initiative of the "Directorate responsible for orientation and continuing training". This Directorate of the Ministry of National Education is responsible for implementing and co-ordinating the continuing training activities coming under this Ministry.

The experiment referred to here has been proceeding in the Orléans-Tour "Académie" since the beginning of the 1971 school year. A group of teachers (13, 18, then 22 in 1973-74) from various disciplines in general and technical education have been released for the entire school year for a "training assignment in an economic environment".

In the terms of the official note, the objectives of this assignment are:

- To develop contacts between those responsible for education and those responsible for the various sectors of the economy;
- Through daily experience, to give some understanding of the conditions governing the life of an enterprise;
- To arouse in teaching circles a greater interest in the economic and social sector in general;
- To ensure that, through this information, the teachers involved will, once they are back in their own environment, have an influence on the evolution of traditional structures.

The note points out that the aim is not "advanced vocational training for teachers in their discipline", even though teachers of history, geography or accounting may well acquire information directly relevant to their classes during the assignment, but to make them personally aware of economic and social realities which, it is expected, will help them to "alter their own teaching practices".

This operation, whose major objectives relate to teacher training, is part of a general policy to bring the school and the business world closer together, a policy which includes other more or less clearly stated aims, such as adjustments between educational paths and employment requirements.

The assignment consists of three phases:

- One month of briefing, devoted to information on the national and regional economies and on the problems of the enterprise;
- The practical assignment in the various enterprises (metallurgy, electronic engineering, building, textiles, agricultural co-operatives, banks, etc.). There is an observation phase during which the trainee acquaints himself with the various aspects of the life of the enterprise and a production phase during which the trainee is assigned to a work-place or given tasks more or less in line with his competence;
- A final month for describing and evaluating the experiences of each.

Evaluation consists of the preparation of a collective report presented by the trainees. This document, of approximately twenty pages gives a critical account of the experiment and ends with some suggestions on possible follow-up.

A note by the "Académie" services entitled "Teacher Training assignments in economic environments", designed to present the scheme to likely candidates for further training,

draws on some of the elements in the report by the 1971-72 trainees, but mentions only positive evaluations.

The leading idea behind this assignment brings together two themes: that of "the school open to life", which is one of the recurring themes of the new education movements and that of information on the world of employment in relation to the economic function of the school system, which has often been developed by administrators and teachers of technical education and by educational and vocational counsellors. The first theme is basically pedagogical; it uses a better approach in exploring and analysing realities through direct contact in the field, instead of through the filters of academic knowledge. This theme is often combined with that of "experience in unfamiliar surroundings" which is considered as formative, both on the intellectual level and on the level of "character". The second theme relates to the purpose of the school and its functions in society: a knowledge of "economic environments", which is generally lacking in courses taught, or is often out-of-date and idealised, now appears more and more necessary for teachers. For it is they who help the pupils work out their prospects and to choose between paths corresponding more or less to occupational outlets.

The training model adopted here can be defined as placing the individual in a situation prepared by briefing and reflected on afterwards in the group of participants.

The institutional objectives system has not been totally endorsed by the teacher-trainees, as evidenced in the final report. This report stresses that the way in which the experiment was initiated (by negotiations between those responsible in the "Académies" and the employers' associations) a priori limited and distorted this project to gain some knowledge of the economic environment. "Invited and welcomed into the enterprise by the employer, the teacher is naturally cut off from the workers and trade unions which nonetheless form part of the realities of the life of an enterprise."

There was, however, wide agreement that everyone had acquired some knowledge of the enterprise and of the working world and had quite radically revised their ideas about their own teaching practices. The report shows that the experiment gave rise to considerable questioning of the teacher's role in society, the relationships between education and continuing education and the economic and social system. The fact of having participated in an innovatory experiment, which to date has involved only a small number of teachers, appears beneficial and stimulating: trainees expressed the desire to disseminate "the results of this experiment" on a large scale and to make use of what they have acquired in tasks such as continuing education.

VI. COURSES ORGANISED BY FOEVEN (FEDERATION D'OEUVRES EDUCATIVES ET DE VACANCES DE L'EDUCATION NATIONALE) (FEDERATION OF EDUCATIONAL AND HOLIDAY INSTITUTIONS) GROUPING THE REGIONAL ASSOCIATIONS (AROEVEN)

In 1969 an agreement was signed between FOEVEN and the Ministry of National Education on the organisation of "retraining courses for teaching staff" in secondary-level establishments.

FOEVEN is a body belonging to the out-of-school sector. It is a private association governed by the Law of 1901 and is concerned with running holiday centres and socio-educational centres for educational purposes. Its educational action is intended to complement tuition and takes place outside the class-room(1), with the aim of ensuring

(1) But also within the class-room.

coherent continuity. The idea is "to help the adolescent to develop his judgement, his critical faculties and his will, thereby leading him to freedom of thought and actions", which presupposes setting up educational teams of teachers, educational counsellors and the head of the institution. This continuing education requires that all staff serving in educational institutions, whatever their function, should have some prior psycho-pedagogical training and be kept constantly informed. It was in this spirit that FOEVEN came to engage in training activities.

The 1969 agreement provided for intensive sessions for volunteers (selection is left to the head of the institution). Priority is given to educational teams involving teachers and administrators.

"The programme comprises two phases: a four-day sensitization period, followed by in-depth study meetings lasting half a day once a fortnight or an entire day once a month for the rest of the school year. This constitutes an entity designed to give the participants the opportunity:

- To supplement their knowledge of psychic affective and social aspects of life;
- To reflect on the meaning of psychological and rational phenomena with which they are daily confronted (especially in the exercise of their profession as teachers);
- To confront their teaching experience and compare the answers they give to the problems they encounter;
- To reconsider their personal attitudes towards other people to become aware of certain determining factors in their behaviour and of the reactions these arouse in others;
- To live the experience of a group in evolution;
- To study the sociological determinants of the operation of educational institutions."

The course is organised with the help of private training bodies with practical experience in psycho-sociological training: ARIP (Association pour la Recherche et l'Intervention Psycho-sociologique), CEPREG (Centre de Perfectionnement des Responsables de Groupes), IFEPP (Institut de Formation et d'Etudes Psycho-sociologiques et Pédagogiques), etc.

The facilities proposed are designed to help participants to reflect on themselves, to analyse their own behaviour, that of the people with whom they are in contact and the operation of the institutions in which they work.

The trainers are permanent members of the association, consultants from outside bodies or serving members of National Education services.

They have been through a training session for trainers organised at the ARIP and work in regional teams and in groups inside their own institutions. They are released from class-work during the training period and meet for concertation before, during and after the course.

The sensitisation phase during which work in a large group (learning institutional analysis) alternates with work in small groups (focuses on problems of relationships) was carried out without difficulty. The in-depth (or follow-up) meetings, in the institutions, however, did not always work.

The FOEVEN project is of an ideological nature: the definition of the kind of man and the kind of society to be promoted is the basis on which training activities are defined. In order to pave the way for a society in which men will be more active and more responsible, an "educational community" must be set up which will be able to develop in

young people a sense of freedom and of co-operation. It is mainly a problem of attitudes: the educator must acquire the capacity to change and to establish a positive relationship with the adolescent. A prior condition to changing structures is a change in attitudes. The psycho-sociological training model corresponded exactly to this project.

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The private training bodies which collaborated with FOEVEN offer teacher training cycles or sessions in their own specific fields. Some of these sessions are inter-occupational. Teachers attend for training in the conduct of meetings, psycho-drama, sensitisation to group life, institutional analysis, etc., along with various other participants: social workers, resource persons, business managers. Furthermore, certain courses are designed specifically for teachers, for example:

- Training and education, goals, relations and methods (ARIP);
- Education and pedagogy cycle (IFEPP);
- Pedagogy in the school system (CEPREG).

Participation is voluntary. The agreements reached between the Ministry of National Education and the training bodies sometimes enable teachers to obtain leave of absence, and, exceptionally, some financial assistance through a subsidy. But as a general rule, teachers can only attend the courses during school holidays and at their own expense.

Psycho-sociological kinds of training involve only a limited number of teachers. But the very fact that those taking part express a demand for them and spend their own time and money on them shows consistent motivation. In many cases, the impact of these training periods has extended well beyond the participant as an individual, as for instance when he has derived from them resources enabling him to undertake and innovate in his class or institution, or when he becomes the conveyor of a radically new training model or the instigator of many questions on the future of teaching.

VII. THE "UNIVERSITE PEDAGOGIQUE D'ETE" (UPE) (SUMMER SCHOOL OF EDUCATION)

The summer school of education was set up in 1969 by a group of people belonging to the "Institut Catholique de Paris" and to the "Secrétariat National de l'Enseignement Catholique". Since then, it has been operating each year during the school holidays, for a three-week period, in a school in the suburbs of Paris where it provides training and re-training facilities of various kinds for teachers of all categories and from all public or private institutions. This initiative has met with considerable success: there were over one thousand participants in the UPE in 1971. This activity on a very wide scale is original in that it was designed and put into action by a group whose ideas and methods were in the vanguard of educational reform.

The presentation leaflet indicated "that teachers would be placed in a research and experimentation workshop where critical analysis of experiences would be given considerable emphasis so as to develop in teachers the capacity to change and to innovate". The overall objective was "to make teachers capable of changing and innovating". The organisers posed the problem of teacher training in prospective terms: "How to develop in potential educators the capacity to prepare men for societies which do not yet exist? What kind of knowledge, of know-how, of relationships with oneself, with others and with the world will measure up to the present educational growth? How can future educators

be made capable of criticising institutions many of whose products are beginning to be rejected by society? How can they be made capable of introducing new ones?"

Hence, the project to make teachers capable of revising their attitudes:

- Towards knowledge and the transmission of knowledge;
- Towards oneself and others (here, the aim was, in particular, to break down anxieties and defences, to liberate creativity, to develop the capacity for questioning and for establishing true relationships);
- Towards institutions, by developing critical analysis and "institutive" creativity.

Apart from up-dating knowledge and acquiring new techniques, the aims stated in 1973 called for:

- Practise in management as part of training;
- An attempt to decompartmentalize the different kinds of education and different kinds of training, i.e. interdisciplinarity.

Through communication in work and integration of new knowledge, the aim is to go beyond a highly compartmentalized culture or school not by reference to a new cultural model but through the coherence revealed through various approaches.

Every year the UPE modifies its structures in response to emerging needs:

In 1969: permanent groups;
1970: introductory courses: three days of non-didactic learning;
1971: diversification of phasing - modular programmes;
1972: group-managed training contracts, dossiers prepared in the field before the UPE and reconsidered at the beginning of the school year.

In 1973, three activities were prepared:

- in a specialised centre, learning a particular subject or technique such as audio-visual techniques, contemporary literature, training of adults, the art of expression, etc.;
- three kinds of interdisciplinary workshops:
  + association of several neighbouring disciplines in concerted programming, for instance: Physics and Mathematics, French and Linguistics;
  + study of a complex reality such as the school and its language, with the help of the human sciences (Psychology, Sociology, Psycho-analysis, etc.);
  + confrontation within a single approach of such differing techniques as Computer Science, Politics, Plastic Arts.
- communication between persons or working groups and the evaluation of their relationships and of the tasks undertaken are also given a specific place. This "critical" second look at what is done and experienced is part of the training process used by the UPE. All trainees take part in it.

Evaluation takes place in the course of activities. The services of social psychologists are available to groups who desire them. Groups of trainees from a cultural centre, group or institution can request an activity for the following school year.

The UPE organisers are at present attempting to solve two problems which have emerged from their experience:

- The problem of the hierarchy of the various methods and even of the various objectives of teacher training;
- The problem of integrating the insights acquired by the individual on the

training site into his teaching practice. The July holiday may well become the teacher's "Paradise Lost" which he will dream about but which clearly bears no relation to the institution in which he finds himself at the beginning of the following school year.

The summer school of education is an offshoot of the May 1968 movement. It retains the collective dimension, the decompartmentalisation of categories, the "chapels" and "doctrines", the enthusiastic search for new models, the belief in the virtues of exchange. Social psychology, institutional analysis and anything which seems innovative in educational techniques and methods are combined in a double-barrelled strategy (typical of the Christian left-wing): an initial shock at the personal level causing a change in attitudes, modes of behaviour and objectives which then leads to action on structures.

VIII. THE "CENTRE DE FORMATION A L'EDUCATION NOUVELLE" (NEW EDUCATION TRAINING CENTRE)

The New Education Training Centre operated from October 1969 to June 1971. This was an experiment which could not continue through lack of financing but which, for a period of two years, was able to explore the problems of teacher training in all their dimensions.

This Centre was set up by the "Association Nationale des Ecoles Nouvelles"(ANEN) (National Association of New Schools), to which several private schools applying new education methods belong. The Association was able to finance the Centre for two years and was counting on receiving a grant from the Ministry of National Education which was not awarded. The intention was to set up, alongside the initial training intended to provide basic training for young teachers interested in teaching in new schools, a continuing training course for teachers already in service in these schools. Twelve trainees were recruited, six at primary level and six at secondary level.

The aim of the Centre as stated in the statutes was "to determine and put into practice measures capable of promoting the basic training and continuing training of persons wishing to use active methods of education in educational and training institutions". Thus, the response of the Centre to the training needs of the new schools also afforded an opportunity of undertaking research in the field of teacher training.

On the basis of this general objective, the aims and operating conditions of the Centre was defined by a working group in which future trainees and future trainers took part. The principles outlined by this working group aimed at introducing flexible structures capable of evolving; it was provided that:

- Training would be given in various places (centres, universities, schools);
- It would be decompartmentalised as regards:
  - Theory and practice;
  - The various disciplines;
  - Training for primary and secondary levels;
  - Relations with other educational environments;
  - Participation of trainees in the organisation and management of the Centre.

Basic training covers two years, one year at the Centre and one as a serving teacher with periodic meetings. Activities in the first year fall into three categories:

- Practical training, three half-days per week in the schools;
- Courses at the university;
- Group activities in the Centre.

(i) The practical training is the core activity: the realities of class-room and school generate many questions to which theoretical reflection and group exchanges can then give their full dimension.

(ii) At university, trainees intended for primary education who were recruited on the basis of their Baccalauréat certificate prepare half a university diploma in literary studies(DUEL)(1). Those aiming at secondary school teaching, recruited with the DUEL, prepare half a first degree in Educational Science.

(iii) At the Centre all trainees take part in sessions of corporal expression, drama, music, handicrafts, and initiation in various technologies and group dynamics - activities concerned with personal aspects of training (the trainee as an individual and in his relations with others). Other sessions are devoted to pedagogical problems and to "up-dating knowledge", so that ideas acquired at university and personal experiences can be presented and analysed in group sessions(2). Lastly, courses are given on learning French and Mathematics.

The principles and options to which they gave rise as regards organisation and content of activities are marked by the "new school" spirit. Their coherence is derived from the educational model common to the various new schools, whether they have drawn their inspiration from Claparède, from Decroly, or from Cousinet - a model according to which the pedagogical act is an act facilitating the learning process, the organisation of an environment encouraging the development of interests, concentration on the pupil, valorisation of the overall personality, free expression and co-operation. Corresponding to this pedagogical model, there is a teacher training model designed to arouse and develop in teachers the necessary qualities for applying an active pedagogy. This model is defined largely by opposition to the traditional teacher training model:

- In contrast to a basically academic training, it focuses on personal training and pedagogical training in the broad sense;
- In contrast to an intellectualist training, activities such as corporal expression, drama, plastic arts and music have an important place in the time-table;
- In contrast to a training in which the objectives and approaches are defined by the trainers, the initiative and participation of the trainees are called into play in the management of the Centre and the determination of training policy;
- In contrast to the compartmentalisation of primary and secondary education, a pluridisciplinary group is established bringing together the two categories of teachers.

This model provided opportunities for all sorts of advances and changes in particular because it gave the trainees power which was not precisely defined within the institutional framework. The management of the Centre was in the hands of two bodies: the Council of Administration comprising representatives of the ANEN, the principal and the trainers of the Centre, and the Pedagogical Council comprising the principal, the trainers, the headmasters of the schools, and two trainees. The Council had in particular planned a selection procedure at the end of training. A rift appeared fairly rapidly between those directly involved in the daily life of the Centre (headmistress, some trainers and trainees) and those representing the outside institution. Following a series of conflicts and vicissitudes, the initial model was replaced by a joint manage-

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(1) The DUEL is the first two-year cycle of higher university education.
(2) In the schools.

ment model, reflecting the power take-over by the trainees: the principal became the "co-ordinator", the Pedagogical Council was replaced by a Managing Board bringing together representatives of the Council of Administration, the headmasters, trainers and trainees. It should be noted that this institutional upheaval took place on the occasion of a task of vital importance for the Centre: compiling a dossier for the services of the Ministry of National Education with a view to signing an agreement which was to enable the Centre to assure its existence. The urgency of this task prevailed over all other activities for several weeks and provided an opportunity or a pretext for many institutional relational, ideological and pedagogical analyses considered subsequently by the trainees as the high point in their effort of self-training.

IX. THE "CENTRES INTEGRES DE FORMATION DE FORMATEURS D'ADULTES (CIFFA) (INTEGRATED CENTRES FOR THE TRAINING OF ADULT TRAINERS)

The creation of the CIFFA's (5 in 1972-73, 13 in 1973-74 and planned to increase so as to cover all "Académies"), is evidence of the Ministry's intention to play an active part in the development of continuing education in France. The function of the CIFFA's is to train teachers as adult trainers, that is, to prepare them for a new task - organisation of continuing training - which is both similar to their work with children and adolescents and yet radically different. As this is a new job, for which training has to be invented, and as it differs from that of a teacher, the institutional and pedagogical approaches depart from the training traditions of the Ministry of National Education. However, as the trainees are teachers and are trained within the institutional framework of the Ministry of a National Education, it is likely that an experiment of this kind will have repercussions on concepts of teacher training.

The CIFFA is an "Académie" body depending directly on the Rector. It is attached to a public establishment which is its administrative and financial support ("Ecole Normale Nationale d'Apprentissage" or "Centre Régional de Documentation Pédagogique"). Its status is consequently somewhat marginal in relation to the administrative structures of the Ministry of National Education.

Training for organisers of continuing training is provided during a one-year training course involving intensive sessions and periods in the field. It brings together trainees from different categories and with different specialities. The course includes administrative elements and discussions with the participation of outside speakers. However, the purpose of this training is not really learning, in the sense of acquiring knowledge or know-how, but professional retraining. The programme for trainees takes into account their expectations and their personal projects, involves exploring the field of their future activities and reflecting on the aims of the system. It provides for analysing the experience of the group.

The autonomy of the team of trainers (permanent CIFFA staff) follows from the very nature of this training which was designed from a psycho-sociological perspective: the priority given to the function of clarifying attitudes, institutional relations and determining factors presupposes that those responsible for training are totally outside the hierarchical structures. That, in any case, is the plan of the CIFFA promoters and is already being carried out. The future will tell if a wager of this kind can be won within the Ministry of National Education.

* * *

In collaboration with the Institute of Educational Science of the University of Paris X - Nanterre, the Southern Paris CIFFA has organised for 1974 an experimental training course for teachers involved in part-time adult training. Fifteen teachers from different disciplines and from different categories will take part in this experiment, assisted by two group leaders. The cycle starts with an intensive ten-day session and ends with an intensive one-week session. In the intervening period there will be two-day monthly meetings and support will be given to individual activities.

The cycle was based on the assumption that the main objective of continuing training activities is to help teachers to determine their own training objectives and consequently the objectives of their educational action. To this end the organisation of the cycle involves, on the one hand, programmed activities: days given over to corporal expression, lectures by outside speakers, reflection groups on the educational experience of participants, and on the other, non-programmed periods for collective thinking on the meaning of activities and objectives, and also for formulating decisions on the later stages of the cycle.

The experiment is closely followed and analysed by a team of researchers whose aim is to explore the dimensions of the problems of continuing teacher training through the trainee's experience.

CONCLUSION

The continuing training of teachers is a necessity recognised and proclaimed in France by all those who have analysed the current development of the educational system. In 1968, the Amiens symposium demonstrated that no educational reform was conceivable without some kind of continuing training to make teachers capable of taking on new tasks devolving on them in a society in constant evolution. Since then, Ministerial plans for the training of secondary school teachers, the report of the study commission on "the teaching function at secondary level" (1972), the national symposium on education in November 1973 and the proposed reform of secondary education announced by the Minister for National Education, provide for the organisation of continuing training for teachers.

As noted above, where primary school teachers are concerned, this continuing training has been available at national level within the framework of the Ministry of National Education since the beginning of the 1972 school year. A similar measure provided for the continuing training of teachers in technical schools in 1973. Furthermore, the training of teacher trainers for continuing education is undertaken in the CIFFA; with regard to secondary school teachers, however, no continuing training has been introduced nor is one likely to be until initial training has been re-organised. Limited activities, various initiatives and research undertaken here and there are all testing schemes or methods of training.

At present, the continuing training of teachers resembles a vast work site where separate groups are at work, sometimes in co-operation, occasionally in competition and mainly in total ignorance of each other.

The solutions put forward, based on more or less advanced achievements, are the product of institutions or movements which can be classified in five categories:

- The educational institution making use of the resources of its own hierarchy: inspectors-general, regional or departmental inspectors, educational counsellors, qualified teachers;
- Training centres integrated into the educational institution: colleges of education, regional centres of educational documentation, etc.;

- Educational associations and movements closely linked to the educational institution: FOEVEN, Centre for Educational Research and Action, Freinet movement;
- The university: UER's, Institutes;
- Private training bodies.

It should also be noted that teachers have often taken part in a private capacity in training courses organised for other occupational categories (social workers, educators, psychologists).

From an examination of the experiments described and their comparisons we may derive the following considerations for defining the main issues of the continuing training of teachers:

Determination of objectives. We indicated in our introduction that two systems of objectives, one traditional and the other of recent appearance in the school world, were more or less clearly opposed or superimposed: academic - pedagogical objectives and vocational - personal objectives. The kinds of training organised to comply with the former are generally closely linked to the educational institution. The second type of objectives are mainly advanced in training activities designed and implemented outside the educational institution, in relation to other social practices and to research in the human sciences. All training bodies define their objectives and do so in a more or less precise manner. Within this framework, the trainers set themselves targets more or less directly in line with the institutional objectives. The trainee-teachers endorse the objectives of the institution and of the trainers to a greater or lesser degree; they also have their own specific objectives. Clarifying the objectives pursued and linking up common aims and individual aims appear as integral parts of training. The greater or lesser involvement of both trainers and trainees depends on whether objectives are merely mentioned in a letter of invitation or stated by the trainer at the beginning of the course or discussed by the group of trainees. Some courses allow considerable time for the discussion of objectives at the beginning or during the cycle. Here, formulating demand, negotiating between the various demands on the one hand and between demand and supply on the other, is not considered as a preliminary but as one of the high points of training. For this is the moment when each person is situated in terms of his personal wishes and in his relationship with others and with the institution.

Choice of location. The location of training activities affects the process in which the trainee teachers are involved in a number of ways: the scene of teaching practice, which can be either the actual place where the teachers teach, or the place where others teach, or training centres designed for courses, library and documentation work and for the use of audio-visual equipment, or even agencies or institutions outside the Ministry of National Education. Location is not only spatially significant in the sense of greater or lesser distance from the scene of professional practice, it also offers psychological fields of real experience where relationships can be developed with other teachers, other "trainees", researchers and practical or theoretical specialists. In this respect there is a general trend towards placing the trainees in situations. None of the experiments considered here is confined to providing lectures or complex information. Each, in its own way, attempts to make actual experience, whether in the field or in the training group, one of the major resources of training.

Autonomy of the training function. According to the case, the training body is more or less dependent on the institutional hierarchy. At one end of the scale training is organised, implemented and controlled by the administrative authorities: this paper has shown that the objectives and approaches were generally in this case of the "academic training - pedagogical training" type, i.e. situated in the traditional line. At the

opposite end of the scale there are the kinds of extra-institutional training provided by private or public bodies which have signed agreements with the Ministry of National Education and (or) provide training courses open to teachers in a private capacity. It is obvious that the greater the independence of the training body with regard to the user-institution the closer one gets to the personal training-vocational training model.

The emergence of the personal training-vocational training model can be seen to varying degrees in all innovative experiments. This is due both to the development of the human sciences and to the spreading influence of such services as group leadership, psychotherapy, social services, re-education, psycho-analysis, training and action influenced by social psychology. Thus concepts of the continuing training of teachers are evolving in what appears to be an irreversible manner towards:

- Self-training of trainees who tend to determine the objectives, resources and control of their own training;
- Inter-training of trainees. The care taken in establishing more or less heterogeneous or homogeneous groups, the analysis of group experience, the analysis of actual professional experience (Balint groups) and the group practice of institutional analysis, are tending to become major elements in training.

The link between training and innovation appears to be of prime importance. The justification for any training project is the contribution such training will make to educational innovation and reform. Furthermore, certain types of training or certain phases of a training activity are designed within educational teams in which teachers can concert both their practice and analysis of the approaches employed.

Beyond the innovative models and achievements reviewed here, it is possible to discern a power struggle for training waged between the institutions and the ideological and political movements. While teacher training is fairly generally inspired by a will to create the appropriate conditions for change and to breathe new life into school practices, this is no more than a preliminary: the issue is what sort of change - what and who will be the choice of institutions and individuals?

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B. Experiment of the College of Secondary Education At Marly-Le-Roi and Its Implications For Teacher Tasks

by

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CONTENTS

Summary 57

I. "THE MARLY EXPERIMENT" 58
A. New strategies 58
B. Redistribution of tasks 59
C. Functional architecture 60

II. THE CHANGING CONTEXT OF THE PROFESSIONAL ACTIVITY OF TEACHING 61
A. Trends in the distribution of responsibilities for teaching and learning 61
B. The commitment to permanent participation in the adaptation of the educational system 61
C. Renovation of career patterns 62

III. THE CHANGE IN WORKING CONDITIONS AND THEIR IMPLICATIONS 63
A. Changes in tasks 63
B. Teacher requirements 63
C. The evolution of the demand 63

IV. NEW STANDARDS FOR TEACHER EDUCATION 64
A. Initial training 64
B. Continuing training 65
C. Redistribution of institutional responsibilities in training 65

V. THE CONSEQUENCES FOR COSTS AND PLANNING 66
A. Taking stock of the prototype and the laboratory 66
B. Dissemination and development 66

Annex I: Protocol on the organisation of the teachers' service in the "Louis-Lumière" College of Secondary Education, Marly-le-Roi, from 1971 68

Annex II: General lay-out and existing resources of the "Louis-Lumière" College 70

SUMMARY

The purpose of the study was to ascertain the effects of educational technology on the changing pattern of teacher tasks.

The author has drawn on her experience at the Marly College of Secondary Education (CES) as the specialist responsible for one of the seminars (from their inception in 1966 up to the present - 1974).

The following results were recorded:

(i) The force of technology is such that it enables the traditional patterns of education to be developed, and the teachers' outlook to be transformed.

(ii) Technology involves the rationalisation of tasks in a school just as in a business firm. Thus the traditional separation between education for adolescents in a cloistered world, and working life for adults comes to an end. In every case, the teacher becomes a specialist in certain jobs which are entirely comparable to those performed in business life.

The implications for educational policy in the Marly CES are as follows:

(i) This is a "prototype" school trying out new technologies, and required to assess the general and particular conditions required for their introduction, so as to make them transferable to other schools.

(ii) It is the nucleus of a looser structure which incorporates other traditional schools in its research seminars for part of the activities involved. This wider structure is then able to modify the traditional system through the efforts of the participating teachers.

(iii) It is a microcosm which permits teachers to be trained in educational technologies, thanks to its potential for transforming their outlook.

(iv) It is a school module which must not contain more than 1,200 pupils if the experiments are to be properly evaluated. In some instances, the 500-pupil module may be preferred.

(v) It represents a modernised architectural lay-out which is essential for the achievement of the aims assigned.

I. "THE MARLY EXPERIMENT"

This is the description applied to the Marly College of Secondary Education(1), which was constructed to try out a rational organisation of work based on the assumption of industrialisation of education.

Three official aims have been assigned to it:

- To increase the productivity of the educational system so as to release mankind from all the tasks which can be performed by machines;
- To democratise education by eliminating both social and geographical handicaps;
- To canalise the constant adjustment to the rapid progress of knowledge and technology.

The Marly College was opened for the sixth school grade in October, 1966; its first phase of development, however, was not fully attained until October, 1969, with the institution of the third grade. The second phase, corresponding to the opening of the resource centre (centre d'auto-documentation - CAD) began only in January, 1973; clearly, therefore, any attempt to evaluate the results would be premature. Nevertheless, as regards our subject of "New patterns of teacher tasks and their implications", a first stock taking brings to light a number of considerations which are worth attention:

The introduction of educational technologies in this school, considered as an observation laboratory, did away with the traditional role assigned to the teacher specialising in his own subject with an all-round knowledge of all aspects of teaching.

New basic specialisations were evolved by reference to other sectors, identifying the teacher as group leader, expert, researcher, producer of audio-visual programmes. This makes it essential to redefine the conditions of work as well as the conditions of training and recruitment (Annex I).

The general features of this experiment are described below.

A. New strategies

The whole experiment is based on the use of up-to-date machines for communication, which involves some rationalisation of activities.

Teaching syllabuses(2)

Most of the reforms attempted on a country-wide scale grew out of the realisation that the syllabuses were burdensome and unsuitable. The solutions proposed lay mainly in the sub-division of the existing curricula.

The choice made here was for programmed learning where the communication difficulties are reduced by employing the minimum information unit. No discipline, however, is really ready for such an operation. The prerequisite for the whole undertaking is, indeed, a clearly defined epistemology for the subject concerned.

To this end, the researchers (epistemologists and educational technologists) must first have considered each discipline with a view to taking research further and supplying the necessary knowledge and methodology. We know, alas, that this is rarely the case.

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(1) The "College of Secondary Education" is a lower secondary school intended for the 11/12 to 15/16 age group, representing the second period of compulsory education.

(2) Mimeographed publications of IPN, 29 rue d'Ulm, Paris 5. Analyses des contenus de l'enseignement de l'histoire, (1969-1970).

The most advanced attempts have been made in physics, mathematics and biology. The human sciences stand up fairly well to the constraints imposed; what the history of education presented as immutable is challenged from A to Z by these simple questions: Why is this teaching given? What is the purpose of this training?(1)

The boundaries between different disciplines are breaking down; some are disappearing altogether. On the other hand, new disciplines which formerly seemed marginal are coming to be accepted as essential instruments, e.g. linguistics or information science.

B. Redistribution of tasks

A start has been made on three fronts:

- Definition of the objects of each discipline and epistemological study prior to any research;
- Organisation of curricula based on the needs of the learners;
- Programming of disciplines recognised as useful to training.

It should be noted that the present teachers have never been trained for these tasks, and that some retraining is always necessary(2).

Information is supplied to the majority in film or broadcast form, either outside the CES, through the OFRATEME system(3) or through the mass-media system, or in the Marly projection room, when it is a matter of filling in gaps in the information.

The utilisation of this information is effected in medium-sized groups, with suitable supplementary documentation.

Assimilation of the knowledge is effected in small groups, in better conditions. The creativity exercises demand the same small group structure, and fall naturally into this section of the taxonomy.

The processes of checking the knowledge acquired are normally left to the end, but they may follow each individual task to assess its effectiveness.

Thus, the traditional one-hour work unit, with questions taking up 15 minutes and exposition 40 minutes, is replaced by the 20-minute information period, supplemented by the phases referred to above, which may fit with different consecutive or deferred 20-minute modules.

This new taxonomy has the effect of diversifying the teacher's role. Clearly, the teacher does not employ the same techniques or play the same part in preparing the information and in supervising the control checks.

The concept of the class with a maximum number of pupils has ceased to have any day-to-day significance, and has given place to other organisation norms imposed by the machines. Students are grouped in accordance with the various teaching functions; they may be collected in a whole age class (which may represent 190 pupils), an average-sized group (20 to 25 pupils) or a small group (4 to 5 pupils).

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(1) Josette Poinssac, "Problème posé pour une discipline", Techniques audiovisuelles et Histoire, PUF., 1974, appearing shortly.

(2) Cf. film on "Rationalisation de l'acte pédagogique" by Josette Poinssac, produced by the St. Cloud Audio-visual Centre, 1972. Black and white, 35', sound track, 16 mm.

(3) OFRATEME: Office Français des Techniques Modernes d'Education.

C. Functional architecture (Cf. Annex II)

Group flexibility

To house up-to-date technologies and prevent a return to obsolete teaching-learning methods, the architectural setting was planned as a result of close collaboration between the architect, Pierre-André Dufetel, and the teaching team constituted by Henri Dieuzeide.

The construction thus allows modulation of the work cells in accordance with the needs prescribed by the new taxonomy of teaching aims.

The central building contains the common facilities - restaurant, administration, production studio and projection room, and an all-purpose hall for the largest groups.

The five flanking clover-leaf buildings stratify the pupils by mental age from the 6th to the 3rd grade.

The triangular units in these buildings are intended for medium-sized groups watching T.V. programmes; the furniture and equipment are portable, so that the groups can split up into very small units as their activities may require.

Functioning of technologies

The studio is fitted with a complex central control which allows messages of professional standard to be compiled. The recording room is large enough to accommodate medium-sized groups (25 to 30 people). Recordings of these working groups may thus be envisaged, to allow the development and progress of the methods applied to be followed.

A photographic laboratory and a printing shop are adjacent to the studio. The production and utilisation of multi-media information messages are facilitated by another duplicating shop adjoining a very full set of light audio-visual equipment.

There is a sufficient number of distribution channels to meet the needs of the different sections upon request.

The whole set-up of production, distribution, preparation and retrieval of multi-media messages can thus operate simultaneously.

Two automatic inquiry stations allow for checking by multiple-choice questioning, to promote the accuracy and efficiency of all pedagogical research.

Resource Centre (Centre d'auto-documentation - CAD), and individualised instruction (CF. appended plan)

The Marly CAD, which was evolved through protracted collaboration between several working parties, seems to offer a glimpse into the future. Rational organisation of teaching leads, indeed, to individualised instruction. This is the last phase in getting the "Marly experiment" underway(1).

The functional architecture, modular down to the individual booth, has allowed information transmitted by any medium to be made available to the pupil since January, 1973. At whatever time he chooses over a fairly long period, the pupil can work at whatever discipline he prefers. He can call upon teacher-supervisors to advise him about the actual information or about the management of his time, until the utilisation of self-guiding programmes confers the status of independent work on the experiment.

Here again, the importance of new teaching tasks may be underlined, as regards both documentation and work guidance.

This first observation of the Marly experiment reveals the diversification of the teachers' functions, and the entirely new specialised skills required.

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(1) Le travail indépendent. Le Centre d'auto-documentation du CES de Marly-le-Roi. Joint study directed by Annie Bireaud, INRDP, 29 rue d'Ulm, Paris V, 1974, 270 pages.

II. THE CHANGING CONTEXT OF THE PROFESSIONAL ACTIVITY OF TEACHING

A. Trends in the distribution of responsibilities for teaching and learning

Economic responsibilities

The use of educational technologies involves a concept hitherto alien to the educational system - that of the economic return on the equipment and on the people using it. The new responsibilities are thus similar to those encountered in a business firm.

The equipment is only usable for a certain time, and has to be changed as and when technology evolves. Thus the Marly CES, which was fitted up with closed circuit television when it was built in 1966, had to change the equipment in 1972-73.

To be able to use the original equipment, then opt for more advanced equipment and be able to use that in turn, the teachers had to learn to collaborate with engineers and in some cases re-train as engineers themselves.

The economic responsibilities are not confined entirely to local operations. The Marly CES is visited by experts of various kinds from many countries. The general layout has been reproduced, in whole or in part, all over the world.

Scientific responsibilities

The teachers had to organise to make the machines usable. Syllabuses had to be adapted or reviewed(1).

Teaching models which could be reproduced elsewhere were worked out for and in the Marly CES, which was conceived as a laboratory.

Not only did all the schools equipped with closed circuit television, e.g. Sucy, Gagny, Saint Quentin, benefit from this experiment and its teaching background at the same time as Marly; this also applies to other experimental CES's and to current trials in such new towns as Grenoble-Echirolles at Montreuil-Bellay.

Bearing in mind both the number of members of the National Education System who were trained as teachers or technicians at Marly itself, or as students or researchers in seminars, and the important role filled by these people elsewhere, now or in the past, it can be claimed that recent teaching innovations have largely sprung from the Marly experiment.

At Marly, the teacher is encompassed by an experimental institutional framework which may seem somewhat constrictive, but the responsibility borne by each individual is such that the experiment would be hindered or even defeated if it were not supported by one and all. It seems no exaggeration to say that Marly endows each individual, whether pupil or staff member, with the responsible attitude that becomes a way of thought and action.

B. The commitment to permanent participation in the adaptation of the education system

To this end, the teaching staff of the Marly CES were, generally speaking, recruited at the start from among those volunteering to serve after agreeing to the gist of the specific protocol later drawn up with their participation (Cf. Annex I). This implies a moral assumption of responsibility in the experiment. Even if this did not invariably follow, inasmuch as a commitment has no meaning as long as the person concerned has no inside knowledge of the milieu to which he is committed, measures were nevertheless planned to secure everyone's support of the aims in view.

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(1) Etienne Brunswic, "Hier l'audiovisuel. Demain des technologies de l'education". Media, December, 1970, (OFRATEME).

The internal teams worked to an agreed teaching pattern complying with the directives laid down at the weekly meetings of the teaching teams, where the discussions are led by a responsible staff member whose teaching time is reduced accordingly.

The organisation of syllabuses and of the experiment as a whole is dealt with in local seminars arranged by subject, still meeting under the authority of a high-level specialist outside the CES, as regards the scientific side. Once a fortnight, every teacher is thus invited to attend a session where current research work is reported on, and specific directives are issued for the next two weeks.

These seminars have played a decisive role for all schools equipped with closed circuit television. There thus existed, to start with, a "school of educational technology" linked by a highly efficient unified organisation with Liévin, Sucy, Gagny, and Saint-Quentin. The personalities of those responsible and the "piloting changes" subsequently played a decisive part in the fragmentation of the seminars, then in their later restructuring.

The study sessions and the seminars of some days' duration permit a new injection of knowledge, and some consolidation of the team spirit for the various schools lying within Marly's intellectual orbit.

In certain complementary and essential research sectors Marly was supported, for instance, by such traditional schools as the Molière and Hector Berlioz Lycées, Paris. Both have made a notable joint contribution with the Marly CES to a project for the experimental training of pupil-teachers at the Paris-Sud Regional Pedagogical Centre, in editing "montages" with sound backing and short modular films.

Lastly, some very fruitful encounters have been arranged with enterprises running training schemes based on the use of educational technology, for instance with Electricité de France, the French State Railways, and the Hospital-University Centres of Mecidine.

For all teachers committed to this experiment, regular contacts outside the walls of the schools were an essential condition of their contribution to its effectiveness.

C. Renovation of career patterns

The first year's experience showed that in the new working conditions, the various categories of teachers, i.e. "Professeurs d'Enseignement Général de College" (PEGC, 3 years' study after the baccalauréat), "agrégés" and "certified teachers" (5 years' study after the baccalauréat), drew no particular advantage from their respective trainings. Consequently, the teaching time-table was fixed at a standard 15 hours a week for the whole teaching body, with the obligation to attend the seminars referred to above.

With regard to staff motivation, an important change may be noted:

- The PEGC's and certificated teachers benefited from a reduction in their teaching time-table which put them on the same footing as the agrégés, and the segregative labels applying in the traditional lycées have no meaning here. Ability is more important than diplomas.
- The best elements were very soon asked for by the central services of OFRATEME for production work, by the National Institute for Research and Pedagogical Documentation (INRDP) for administration and research, by the new university Departments of Educational Science to teach educational technology, and even by private enterprise.

Some certificated teachers were fortunate enough to become headmasters or headmistresses, or agrégés through internal promotion.

Obviously, if the CES is a laboratory for the observation of teaching experiments, it is equally so for the observation of the people concerned.

There is no denying that this mobility has hampered internal progress in the CES,

which was thus deprived too early of strong personalities that had entered it to get off the beaten track, and were attracted by the novelty and risk of the experiment. At the same time, however, they have disseminated the ideas behind the experiment in their new surroundings.

III. THE CHANGE IN WORKING CONDITIONS AND THEIR IMPLICATIONS(1)

A. Changes in tasks

The net result of all the above may be summed up as follows: The first change is the substitution of a teacher-researcher for the teacher inexorably labelled as such from the start of his career to his retirement. Another equally far-reaching change is the switch from one general function to another more specific and less immutable function. Lastly, the habit of working in close collaboration with technicians has levelled up the intellectual status of the people concerned.

We thus find the various tasks performed by:

- Specialists in audio-visual and programmed productions for information purposes;
- Group leaders familiar with all the rules of communication for utilisation purposes;
- Supervisors of learning at the assimilation level;
- Supervisors conversant with the rules of docimology and evaluation, for checking purposes.

B. Teacher requirements

Teacher requirements cannot be said to have diminished at Marly under the experimental regime, but two factors essential to objective observation must be borne in mind:

- Teacher requirements being thus diversified, as we have tried to show, no direct source of training was to be found among the existing institutions. As a result, the fresh training which was essential for the scheme meant, in some cases, loss of time, as high-level posts which were clearly defined but few in number were replaced by jobs for volunteers or subordinates.

In other words, the changes in the day-to-day work gave rise to new requirements which were not filled until long after, as the Marly experiment has never been completely autonomous, and the status of "experimental school" was only recently recognised.

- The siphoning off of able teachers by promotion or external demand as soon as their quality was recognised meant that Marly has given more generously than can be measured. The situation was aggravated by the "piloting change" which caused Marly to advance from a first dispensation as a supplier of information (Institut Pédagogique National - Radio-Télévision Scolaire and Production Films system, Slides), and obliged it to produce such information in sectors which were not originally assigned to it.

C. The evolution of the demand

As the fame of Marly gradually spread, the demand for "Marly-type teachers" grew. The experimental schools established with up-to-date technological equipment are now out to get all the competent teachers available with audio-visual experience.

It is therefore urgent to establish an adequate training centre.

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(1) Josette Poinssac, "Technologie éducative" (International Congress on Educational Science, September, 1973, Paris). Media, January, 1974, OFRATEME.

IV. NEW STANDARDS FOR TEACHER EDUCATION(1)

Henceforth, any professional training should be planned in two phases: initial training and continuing training.

A. Initial training

Acquisition of basic skills

We have noted the importance of team-work, which is such that a single individual can in no event either set up a technological system or put another such system into operation; thus, the outstanding quality required of each individual in the group is his capacity to listen to the others.

The prospective teachers have to master the techniques of group dynamics and understand those of synectics, especially all the creativity potential which depends on a team.

Equally essential appears to be adaptation to the use of the machines, whether for video recordings and playbacks, production of multi-media messages or the use of computers. Ergonomic problems exist at all professional levels, and it seems essential for teachers to be aware of the possible solutions, not merely for the pupils in their charge, but first and foremost for their own sakes.

Languages of communication

Although the languages have not been fully rendered in scientific terms, it is as well to have a grasp of their management and limitations, and to understand the point reached with research in this field: cinema semiology, diagrams and animated diagrams, and computer language enter in as so many necessary skills to be learnt, and each demands long practical experience.

Epistemological concepts

Having regard to the importance already allotted to syllabuses, we shall here urge the importance of an epistemological training at three levels of study, which should perhaps be simultaneous rather than consecutive:

- Genetic epistemology in the light of J. Piaget's work;
- General epistemology to acquire a knowledge of trans-disciplinarity, which is particularly necessary in educational technology;
- Specific epistemologies of the subjects taught.

The introduction of such studies in the training programme would be of decisive importance, not only for the training itself, but also for the advancement of research in this field, by drawing attention to the gaps which decades of inaction have allowed to form.

Specialised functions

- Group leaders of students are necessary in the Marly taxonomy, especially for utilisation, assimilation and creativity. Although the possibilities of the small group have been investigated fairly fully, those of the medium-sized group are little known.
  The example of Marly shows the need to use group possibilities in all dimensions, bearing in mind that the group contains potentialities of imagination, effectivity, and knowledge which can be employed as a preliminary and accompaniment to logical operations.

(1) For this part of the study, we drew directly on the report already referred to: Techniques audiovisuelles et Histoire, PUF, 1974 (Chapter on Teacher Training).

- Translators for pedagogic communication. Translators are necessary to eliminate the frequently noted tension between the formulator and assimilator of audio-visual messages. They should be capable of grasping the objects of the messages formulated and adjusting the languages to the content already analysed.
- Educational experts. In each special branch, educational technologies have been somewhat neglected or inefficiently used, largely because of an imperfect knowledge of their possibilities. It is therefore essential for them to be introduced to the future educational experts in each special branch, so that the field of action may be extended to research. These experts will, indeed, be required to extract from pure science the material needed for science applied to training.

B. Continuing training

Contacts with the business world

In our rapidly changing world, at a time when the university itself is beginning to change, it is essential for teachers, whatever functions they perform, to understand the business world. It therefore seems desirable for periods of six weeks' to three months' practical experience to be arranged in production firms where the problems of return on investment are arising in a pressing form.

Those firms which are themselves changing are the most interesting for our purpose, in so far as they raise two types of problems:

- The problem of technological improvement, which is common to all public or private enterprises;
- The problem of continuing training in a sector highlighted by contemporary technology.

It is just as essential to ensure reciprocal knowledge of the progress made with parallel lines of research, so that an historian understands what is going on in the world of mathematics, and vice versa(1).

Switch-round of posts to ensure a systematic view of relationships

Within a given system, it is necessary to be able to switch from one post to another: it is good for the abstract scientist to spend some time on practical teaching at secondary level, and for the practitioner-group leader to become for a short time a formulator of messages.

This is a rewarding experience open to members of the staff, which should not only foster each one's creativity, but improve personal relations in general.

C. Redistribution of institutional responsibilities in training

The need seems obvious to review the sections of traditional institutions which are responsible for training teachers, in so far as the requirements we have defined are no longer fully satisfied.

As always in such circumstances, the hardest step is to evolve a satisfactory substitute; in the face of the deficiencies noted, many palliatives have been considered.

As regards the needs of Marly itself, the team structure has lent itself to real mutual training, which proved surprisingly effective, in a "melting pot" where the first arrivals already transformed, mix with the new arrivals, still faithful to the traditional model. At the same time, the study sessions and seminars have ensured the retraining of all concerned and provided a steady creative stimulus.

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(1) It is worth noting the establishment of a Centre of Automated Pluridisciplinary Didactics at the University of Paris-Nord Teaching and Research Unit for the Sciences of Expression and Communication.

However, a trial integration of a group of pupil teachers taking a practical training course in Paris in 1972 proved that training in educational technology, efficient as it is, should begin very early as soon as the candidate decides to take up teaching.

Thus, the most logical assumption seems to point to:

- Early pre-orientation towards technologies, based on behavioural tests and probationary periods with pupils, to avert negative results;
- Initial training based on micro-teaching with the technologists of learning;
- A common core of communication techniques, incorporating different professional trainings, especially for the business world.

Consequently, the organisation guiding such training should, indeed, be incorporated in the National Education System, but might also have a foothold in the business world, like technical education, to link up all the fields where educational technology has proved its worth.

V. THE CONSEQUENCES FOR COSTS AND PLANNING

A. Taking stock of the prototype and the laboratory

As pointed out in the reports of the Financial Administration, the total cost of Marly has been higher than that of a normal CES.

It should, however, be remembered that Marly has acted as a prototype in the development of which many legitimate pedagogical dreams were invested to watch them turn into realities.

At the same time, Marly operates as a laboratory for observing the effects of a whole series of pedagogical catalysts not limited to educational technology, including streaming and coaching methods in the "fundamental" disciplines and in modern languages, as well as independent work for a still experimental sector which includes the "awakening" disciplines (Resource Centre).

It may be regarded as a victory of inestimable value that, perhaps for the first time in the history of education, an experiment on such a scale has not been taken over by the academic structures of the past. Marly, whether we like it or not, points to a radical change in many fields, and forms a turning point in the history of pedagogics. To scan its short life so far is to realise that it would serve no useful purpose, in present conditions, to draw up a financial balance sheet of the equipment and human resources involved. How much, indeed, do six years' operation count for when some parts of the experiment have not even been started, compared with the long period of past history now challenged by the series of innovations proposed by Marly, and demonstrably feasible.

B. Dissemination and development

Many articles have been written about Marly. Two important publications are announced:

- One on the CAD by INRDP (Spring, 1974);
- The other on all the work performed on History-Geography (late 1974).

Things have started to move, and it appears that a regular flow of observations can be ensured for the future.

Lastly, despite all the innovations introduced in such a short space of years, Marly still keeps the lead in every field; it can probably be claimed that in this particular architectural and technological setting, the variables are more clearly perceptible than elsewhere, which leads to the experiment being judged without indulgence.

The development of the most clearly positive aspects is proceeding fairly fast, not only in experimental CES's but through the current reform plans.

Finally, two essential aspects of Marly's success can never be assessed in financial terms:

- The influence exerted by the Marly model outside France, not generally publicised by the very people who have visited it and transplanted the experiment piecemeal or adapted it to a new context, and inside France, where it is only just beginning to be acknowledged, after the protracted criticism it was subjected to because imperfectly understood. Marly, indeed, embarrassed all those who did not share in the experiment, because it transformed all the people involved in it.
- The happy atmosphere prevailing among the Marly school children, at a time when many adolescents skip school because it bores them(1).

I think there can be no objection to our quoting the opinion of Mr. Belbenoit, Inspector-General of Public Education (June, 1971):

"We now have available a functional instrument of research as well as a school in which the enrolment numbers and staffing should be rapidly stabilised. All its possibilities should be exploited!"

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(1) Note also that there are far fewer repeaters at Marly than elsewhere.

ANNEX I

PROTOCOL ON THE ORGANISATION OF THE TEACHERS' SERVICE
IN THE "LOUIS-LUMIERE" COLLEGE OF SECONDARY EDUCATION
MARLY-LE-ROI, FROM 1971

The teaching service at the "Louis-Lumière" CES covers both teaching tasks and research and production tasks, in accordance with the objectives for which the school was established.

On a provisional basis, for the 1971-72 school year, research and production carry reductions in the teaching time-table, or, in some cases, lump sum remunerations.

A. All teachers have the following obligations:

1. To subscribe to a common discipline linked with the very concept of pedagogical experiment, and in particular:

- To comply with the general stages of progress laid down by the INRDP seminars;
- In team-work, to adjust the stages of progress to suit the classes, produce broadcasts and bring up-to-date any documentary teaching material;
- To adopt a standard marking and checking system;
- Not to introduce traditional pedagogical practices on the pretext of correcting or off-setting certain shortcomings of the experiment, as these would falsify the interpretation of the results obtained.

2. To take part in the research work undertaken, collaborating in particular in the adjustment of tests, observations, checks, the arrangements for taking tests, the analysis of the results, etc., and in admitting external observers to the classes.

3. To undertake to acquire an "audio-visual culture", and take part in practical training courses and pedagogical conferences.

Teachers must attend the weekly meetings at which the team-work is organised.

To cope with all these tasks, the teachers, whatever their background, are required to put in not more than six half-days in the school, and 15 hours' teaching.

B. Special Provisions

1. Team leaders or co-ordinators

The co-ordinating teachers are responsible, in their respective fields, for the application of the experimental plans drawn up by the seminars run by the National Pedagogical Institute (IPN). For this purpose, they undertake:

(a) Liaison with the INRDP seminars and attendance at their meetings;
(b) Supervision and guidance of the weekly team meetings (drawing up the agenda, arranging the distribution of tasks, etc.);
(c) Responsibility for the application of the pedagogical assumptions in agreement with INRDP;
(d) Drafting of a monthly report.

According to the subjects taken, the co-ordination arrangements at each level are as follows:

- One hour: special instruction, experimental work, observation sciences, language, Latin, history and geography, transitional and practical classes;
- Two hours: French and mathematics.

It is not possible to combine two co-ordinating functions in the same person.

2. Research and audio-visual production

The audio-visual activities should be gradually integrated in the normal teaching service. As a provisional expedient, to remunerate audio-visual research or the formulation of original messages, a quota of overtime is allowed at Marly CES on the basis of 20 hours' overtime at each level (thus covering roughly seven broadcasts involving 3 hours' overtime per broadcast).

For the 1971-72 school year, the Marly CES had a quota of 80 hours' overtime. This quota was allocated among the different teams by agreement with the Board of Management. Eight hours' overtime (10 per cent of the total) was kept in reserve to be allocated by the Director of the school or of the audio-visual centre.

Each team proposes, at the end of the quarter, an allocation of its quota of overtime in accordance with the actual contribution made by each of its members to the experiment, no longer merely according to the volume of original audio-visual messages formulated.

The co-ordinating teacher plans productions and assumes responsibility for them, and may entrust their execution to one or more teachers. The planning function ensures that broadcasts are regularly arranged in quarterly, six-monthly or yearly groups. Plans are drawn up at the beginning of each quarter.

ANNEX II

GENERAL LAY-OUT AND EXISTING RESOURCES OF THE
"LOUIS-LUMIERE" COLLEGE OF SECONDARY EDUCATION, MARLY-LE-ROI
(Application of Circular 72-462 of 30th November, 1972)

I. Teacher Numbers and Organisation

The "Louis-Lumière" CES has 1,121 pupils, divided into the four grades of first-cycle education.

Each class consists of a heterogeneous collection of 72 to 96 pupils, subdivided into heterogeneous groups of 24 each. Details are given below:

Grade	Number in Class	Groups of 24
6th	1 class of 96 pupils 3 classes of 72 pupils	13 groups
5th	2 classes of 96 pupils 2 classes of 72 pupils	14 groups
4th	1 class of 96 pupils 2 classes of 72 pupils	10 groups
3rd	2 classes of 96 pupils 1 class of 72 pupils	11 groups
Total	14 classes	48 groups + one group of 22 (4th grade pre-vocational level)

The heterogeneous groups of 24 pupils each receive:

- The televised message broadcast over the closed circuit;
- 3 or 4 hours' French teaching (oral expression - written expression);
- 3 hours' mathematics;
- 3½ hours' history-geography;
- 3 or 4 hours' physical education, according to the class concerned.

The heterogeneous classes may be rearranged, for specific activities, in homogeneous groups (A, B, C) in descending order, for the following subjects:

- French: 2 hours (grammar-spelling);
- Mathematics: 1 hour;
- First language: 3 or 4 hours (English, German).

The weakest groups (C) are smaller than the strongest groups (A). In each class, pupils who find it difficult to keep up receive an extra hour's coaching in the vital subjects in small groups of 8 to 10.

Natural science, technology, drawing, music and handiwork are taught to heterogeneous groups of 16 pupils each.

II. Composition of the Teaching Body

	Total	Traditional Secondary Teachers	PEGC's	Teachers for Transitional and Practical Classes
Literature	22	14	6	
Mathematics	14	5	9	
Technology	4	1	3	
History-Geography	9	5	3	1
Natural Science	7	7		
English	14	11	3	
German	5	5		
Spanish	2	2		
Drawing	4	4		
Music	4	4		
Handiwork	4	4		
Practical Classes	2			2
Resource Centre	2		1	1
Physical Education	7	7 established staff		
	100	69	25	

Established Staff: 81 (81 per cent)
Female Teachers : 80 (80 per cent)
Average age : 28

III. Other Staff Categories

(a) Management and supervisory staff:
- 1 Principal - Headmaster or Headmistress
- 1 Principal - Director of Pedagogics
- 2 Deputy Directors
- 1 woman teacher acting as General Superintendent

(b) Administration:
- 1 Principal Attaché of University Administration

(c) Documentary Officers: 3

(d) Supervisors of non-residents: 6

(e) Closed Circuit Television:
- 2 producers
- 2 assistant sound engineers
- 1 broadcasting technician
- 1 maintenance technician
- 2 draughtsmen-designers

(f) Secretariat:
- 1 University Administrative Secretary
- 2 Administrative Secretaries
- 1 Chief Administrative Officer
- 1 office worker
- 2 juniors

69

(g) Service Personnel:

5 senior employees
1 specialised employee
2 skilled workers
26 non-specialised employees
2 laboratory assistants

(h) One nurse - One social assistant

IV. Premises (see the three appended plans on subsequent pages)

The part located on the South of the Avenue du Chenil was built in 1966, and corresponds to a CES 1200. It comprises:

- A polygonal building, housing:
  the administrative offices
  the broadcasting studio and annexes
  the offices of the teaching teams (7 offices)
  an all-purpose hall holding 540 people
  the kitchen of the self-service restaurant
- 5 "clover-leaves" or buildings each containing six rooms, grouped round a central forum.

The 30 rooms in the "clover-leaves" are used for general teaching (French, Mathematics, History-Geography).

The part located in the North of the Avenue comprises three buildings A, B, C, and a playground. It was opened at the beginning of the 1972 school year, and is equivalent to a CES 900.

- Building C contains:
  9 rooms for general teaching
  10 rooms for language teaching
  1 language laboratory
  3 music rooms
- Building B comprises:
  4 art rooms
  4 technology rooms
  4 biology rooms
  3 handicraft rooms
  1 learner's kitchen
  1 woodworking-ironworking shop
- Building A houses the resource centre (centre d'auto-documentation CAD), which contains a reading room for pupils with 100 places, 14 viewing and listening booths, and 10 workrooms. The building also contains a reception hall, storage rooms, a small library and a photo-copying and multi-copying room available to the teaching teams and the Administration.

V. Equipment

The Marly-le-Roi CES has considerable electronic equipment at its disposal.

(a) Heavy Audio-Visual Equipment:

- closed circuit television: broadcasting studio (stage and control room), broadcasting control centre, design studio, sound recording studio, maintenance workshop, drawing office and annexes (photographic laboratory);
- a language laboratory with 18 booths and one teacher's console;

- 100 televisors (the broadcasting system enables 7 different programmes to be transmitted to the various classes in the college; 100 television receivers distributed throughout the CES can receive live or recorded messages produced in the studio, ORTF broadcasts, 1st or 2nd channel, or 16 mm. films projected by telecine);
- 6 magnetoscopes;
- 10 cameras;
- 1 slide viewer;
- 2 collective or multiple-choice inquiry stations (one containing equipment for the prompt recording of answers, the other more perfected equipment for recording, checking and interpreting the pupils' answers).

(b) Light Audio-Visual Equipment (stored in a depôt from which a distribution service is run):

- 50 slide projectors
- 5' 8-mm. film projectors
- 15 mm. "super 8" film projectors
- 6 16-mm. film projectors
- 20 back projectors
- 35 cassette recorders
- 45 tape recorders
- 12 electrophones

Sports Equipment

The school has the use of the Municipal sports centre adjacent to the CES during school hours. This contains a gymnasium (▲), a sports ground with 333-metre track, and two hand-ball courts.

VI. Financial Resources

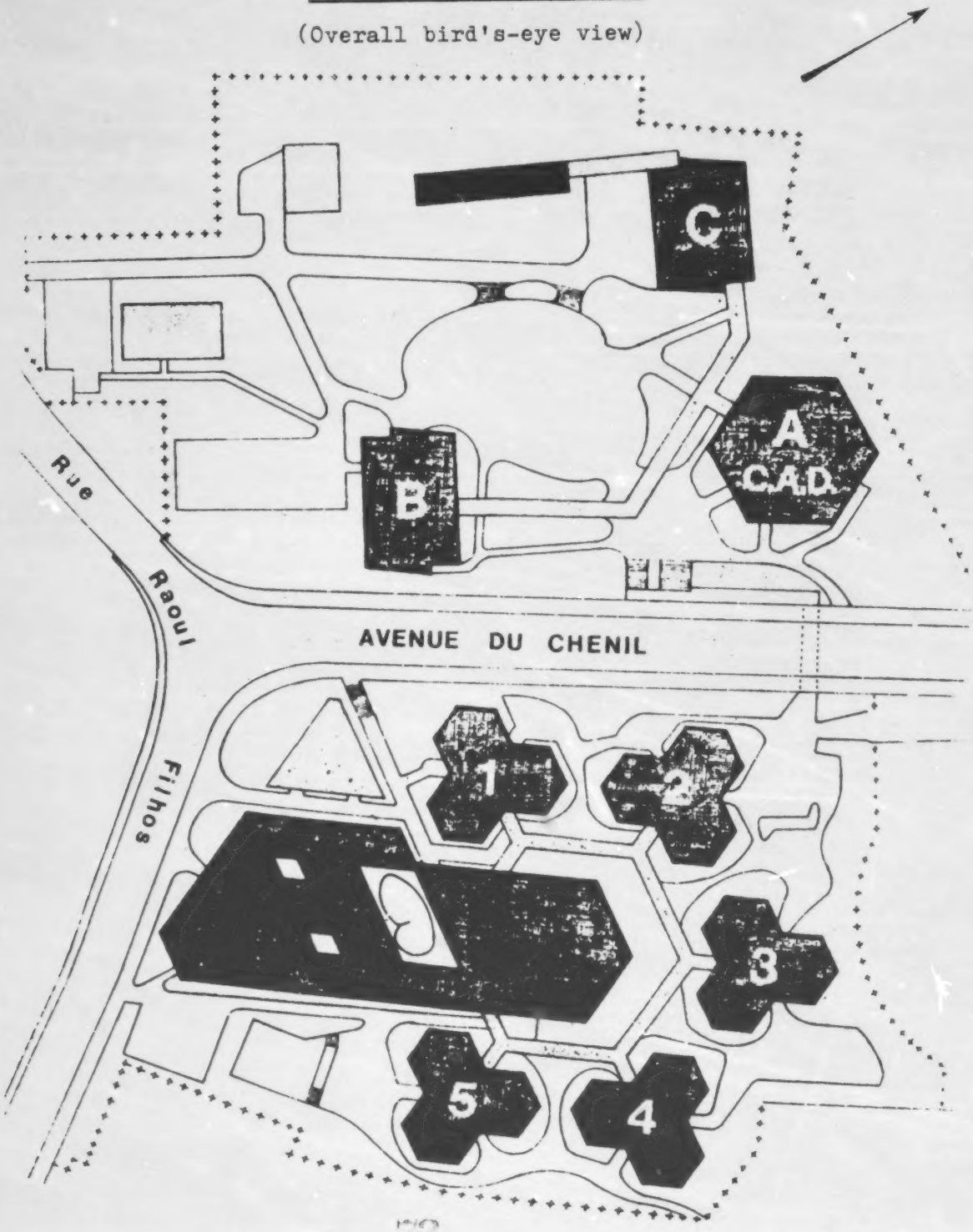
The "Louis-Lumière" CES is a nationalised establishment. The constituent agreement concluded between the State and the commune fixes the municipal contribution to the operating expenditure at 50 per cent of the total.

In 1972, the operating budget amounted to Frs. 417,953.70, broken down as follows:

Lighting-heating	176,157.03 Frs.
Telephone and postal services	13,775.55
Maintenance and repairs	58,451.77
Maintenance-security contracts	40,833.98
Audio-visual equipment	72,000.00
Teaching materials	23,230.00
Schoolbooks	7,758.06
Printing and office costs	8,002.96
Minor equipment and tools	7,534.29
Miscellaneous	10,210.06
Total	417,953.70 Frs.

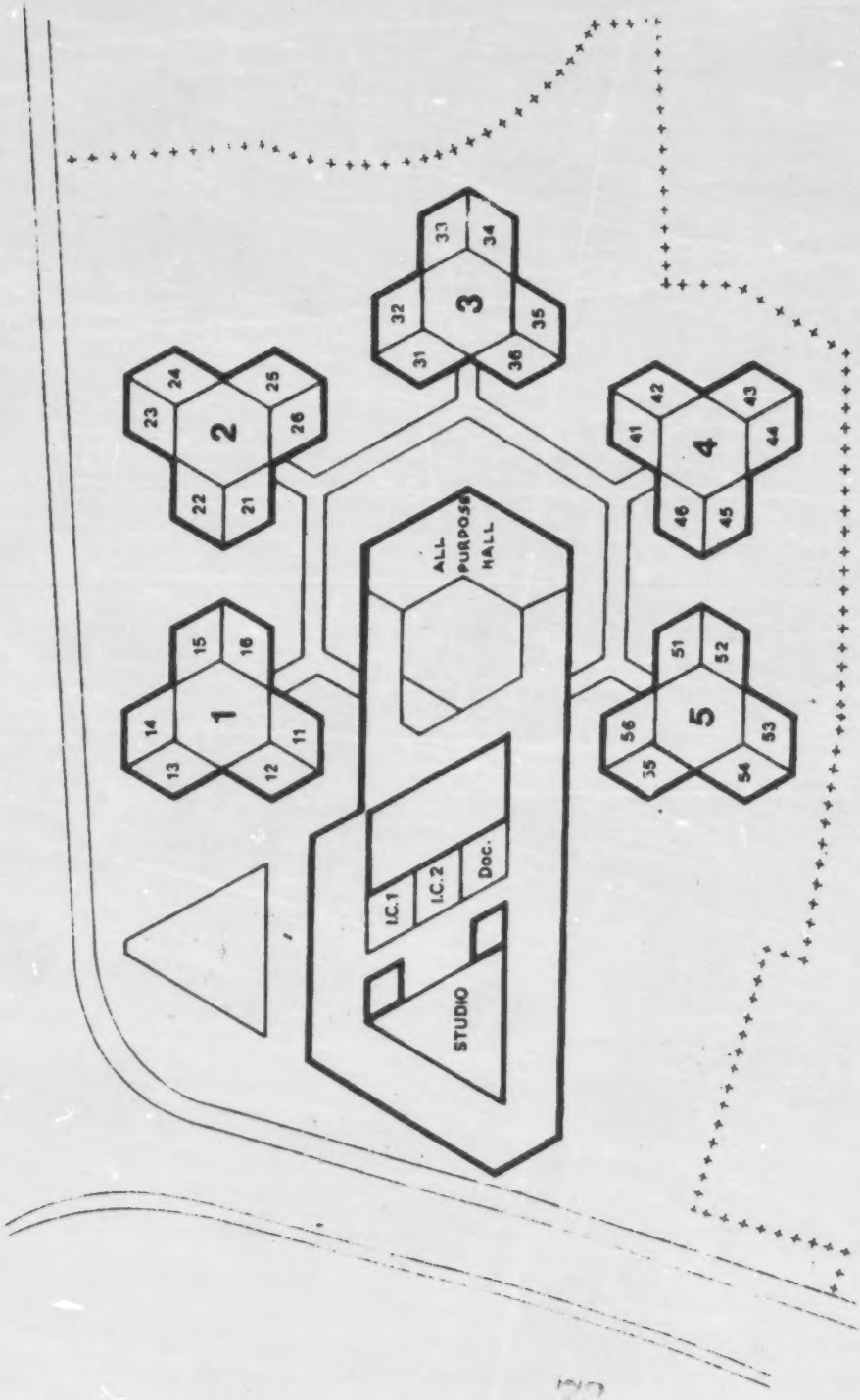
PLAN OF SCHOOL BUILDINGS

(Overall bird's-eye view)



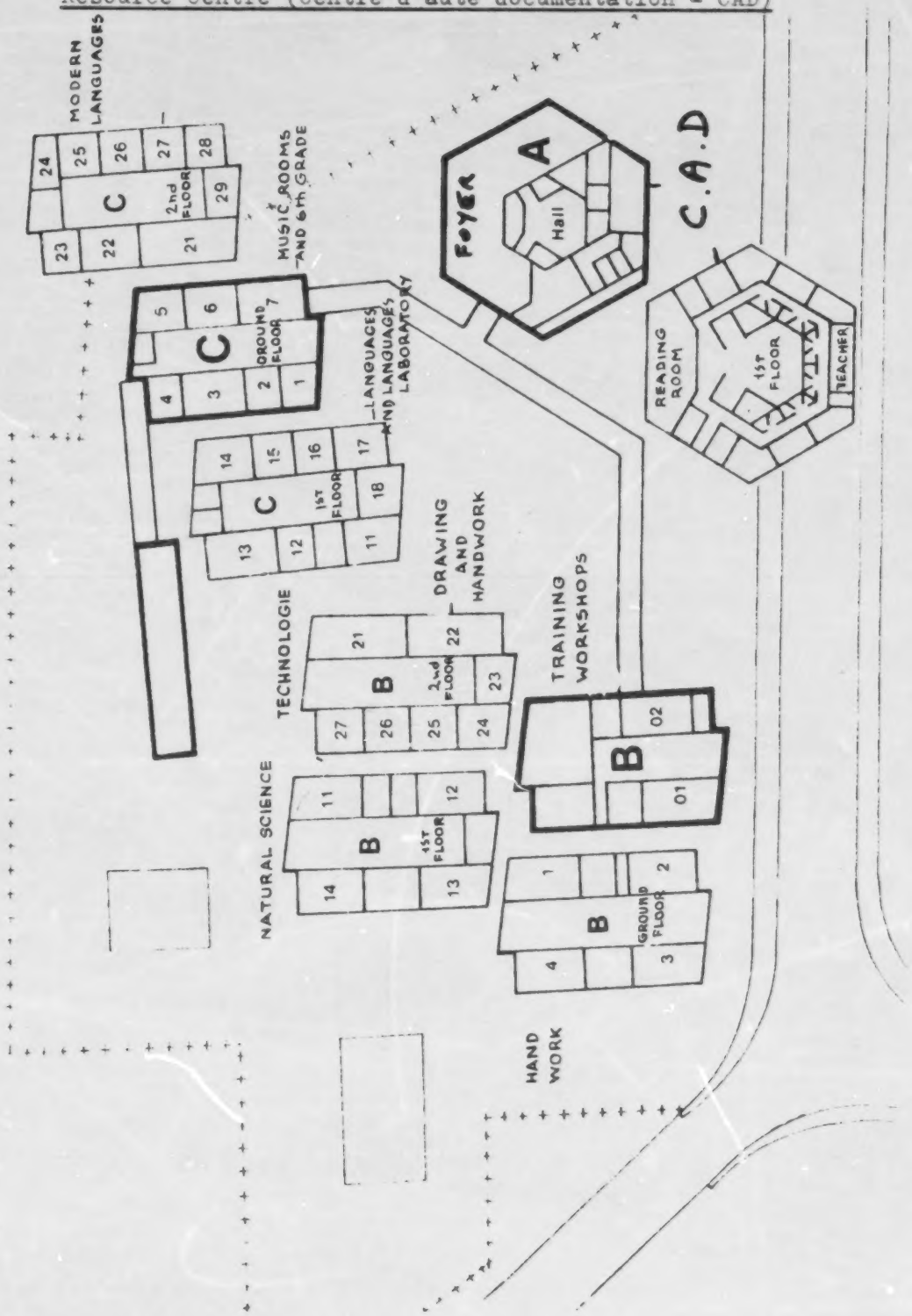
PLAN OF SCHOOL PREMISES

(Central Building and Clover-leaf Annexes)



PLAN OF SCHOOL BUILDINGS

Resource Centre (Centre d'aute documentation - CAD)



UNITED KINGDOM

Innovative Trends To Teacher Training and Retraining

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CONTENTS

SUMMARY 79

I. THE BACKGROUND TO INNOVATION 80
A. Changing Professional Factors 80
B. Social Change and the Teachers' Role 81
C. The Community School 81
D. Changing Educational Technology 82
E. Changing Administrative and Policy Factors 83
F. The 1972 White Paper 84
1. The New Structure of Higher Education 84
2. New Institutional Forms 85
3. Professional Implications of the White Paper 87
4. The Supply of Teachers 87

II. AREAS OF INNOVATION 89
A. Changes in Curricula and Courses 90
1. Integrated Course Structure 90
2. The Development of Strategies for Compensatory Education 91
3. Changing Values of Teachers in Initial Training 92
4. The Science Teacher Education Project 93
B. Developments in Educational Technology Including Teacher-Student Relationships 95
1. The Colleges of Education Learning Project 95
2. Syndicated Learning Groups 96
C. New Developments in the Presentation of Professional Experience 97
1. Teacher-Tutor Schemes 97
2. Micro Teaching Techniques 98
3. Studies of Class-room Interaction and the Ecology of the Class-room 99
4. Teacher Assessment in the Class-room 100
D. In-Service Training and Retraining 102
1. The NCET Innovation Development Project 102
2. Developments in the Probationary Year 103
3. The Teachers' Centre Movement 104
4. Post-Experience Courses at the Open University 104

III. RESUME OF THE PROSPECTS FOR INITIATION IN TEACHER EDUCATION AND ITS EVALUATION 106

BIBLIOGRAPHY 108

SUMMARY

The report identifies the recent Government White Paper and its policies for the restructuring of tertiary education and the adjustment of teacher supply as being the most critical factor in innovation in England and Wales. A number of changes already springing directly from these policy initiatives are identified.

Within the broad context of the White Paper, individual initiatives within the training establishments are seen to lie mainly in the introduction of new courses reflecting curriculum changes in the schools, in new methodologies reflecting advances in educational technology and, in particular, in new developments in the presentation of professional experience in which many of the long-standing criticisms of teacher education are being overcome.

But perhaps the most important area of new initiatives in which the training institutions are joined by the local education authorities is in the in-service training and retraining area. There are indications that this is soon likely to be the main area of innovation in which all the other developments noted will come to play a part. The arguments to support this are presented in a résumé of the paper in which the problems of evaluation are also discussed.

I. THE BACKGROUND TO INNOVATION

The key to the analysis of new developments in teacher training and retraining lies in the changing work of the schools. Change and modification in the practice of teacher preparation can only in a limited and technical sense be justified by the improvement in the process itself. For a fundamental explanation of any change in the professional requirements we must look to the changing circumstances of the schools and to the ways in which these are expressed by teachers, parents, pupils, employers and society at large.

This is not to say that the impetus for change cannot originate in the teacher training field. Taylor (1969) has amassed considerable documentary evidence to suggest that much of the notable new movements in British primary education springs from developments that have been at least in part begun in the colleges of education. Yet even here the reason for these changes and the justification for them sprang from the school situation; the colleges acted responsively and creatively but not autonomously.

A. Changing Professional Factors

Accordingly, it is necessary to preface this account of innovation with some indication of the changing situation in the class-room. It is unnecessary to do this at great length. There is an extensive range of existing studies and reports in which changes in the school system are plotted. Marklund (1973) has neatly drawn attention to some of the more important changes. He lists the extension of compulsory schooling, the delayed differentiation of pupils, the extension of post-secondary education and the integration of different types of schools. He sees many consequences springing from this for the organisation of school work. These include the interdependence of schools, the development within schools of flexible pupil groups determined according to the need of the child rather than to long-standing class divisions, the introduction of team teaching, interdisciplinary studies and flexible lesson periods.

Some of the implications of these changes for the role of the teacher and, hence, for the training of teachers, are drawn out in an OECD paper prepared by Shipman (1971). In an important study of the response of teachers to an innovatory curriculum project designed to introduce integrated studies to a number of schools, Shipman identified a number of ensuing pressures that teachers felt as they became more fully involved in the programme. These included the need to learn new knowledge and new conceptual frameworks, the need to adjust to a diminution in subject teaching and class teaching and difficulties and anxieties about the maintenance of standards and evaluation of pupils' work. He noted, for instance, that the development of integrated studies drew heavily upon anthropology and sociology, subjects that until recently did not form a part of the subject curriculum of most teacher training colleges. He pointed out, for instance, that the most popular unit of the project consisted of comparative studies of Tristan de Cunha, the Dyaks in Borneo and Imperial China and commented that "none of these were liable to be in the teachers' normal repertoire". Not only did teachers have to learn new facts but also new concepts that were previously unfamiliar or even unknown to them. Similar problems arose in the organisational and evaluative aspects of the work. Teachers were unfamiliar with the mechanics of team teaching, unhappy about the disruption of the settled pattern of relationship with children in the formal class group. They had very considerable difficulty in defining standards and still more difficulty in identifying the achievement of these standards in the work of the pupil.

Changes such as these that are widespread in schools, both secondary and primary throughout England and Wales, present urgent encouragement to teacher trainers and retrainers to develop new strategies to enable teachers to work successfully in these new conditions. They are based upon a clear realisation that without such training and retraining the new approaches will perish before they begin.

There is no lack of understanding of these issues, many initiatives in teacher training are now prefaced by statements of objectives in which the situation is stated with considerable clarity. Thus the recent innovation development project of the National Council for Educational Technology, to which reference is made in the report, is set up clearly to help practising teachers to deal with the difficulties of obtaining or producing relevant teaching material; the machinery for the production of resources; the development of indexing systems to enable material to be made accessible to pupils and to the teachers; it is also concerned with helping teachers to develop various kinds of team teaching, team planning and team preparation of materials; to respond to changes in time-tabling; to be able to keep adequate records and assessment. The new patterns of knowledge and organisation to which we have drawn attention are, of course, not unique. There is considerable evidence that they are common to many other education systems. A recent issue of Paedagogica Europaea, the European Yearbook of Education, was devoted to the changing role of the professional educator, Eggleston (1969). Papers included in this volume made it clear that these changes were occurring not only in England and Wales but also in France, Germany, the Netherlands and Scandinavia.

B. Social Change and the Teachers' Role

It might be useful to suggest some of the underlying reasons why these changes are occurring. In part they seem to arise from a new set of requirements that are being made of children as they enter adult society. In the past schooling was a process wherein they stocked up with the knowledge, skills and values of the existing adult generation. Schooling was designed to bring them to the point where they looked sufficiently like existing adults to join their company effectively. They had to be fitted in to existing adult roles that were familiar to the teachers. Increasingly, however, present day society calls for young people who have the capacity not so much to remember but to be adaptive and innovative, to develop new ideas, to take part in new processes. One major reason for this is that modern technology had produced devices that enable existing knowledge and skills to be reproduced far more readily and far more effectively than can be done by human beings. The distinctive human contribution to our present economic system is, therefore, not one that is developed through the traditional arrangements of schooling wherein large quantities of knowledge and skill are committed to memory and long-standing models of thinking are dominant. This process of change is reinforced by a further range of economic factors not the least of them being the rapidly escalating cost of human labour. The ensuing emphasis on integration, flexibility, adaptability and responsiveness to new situations clearly played an important motivating role in the development of new curricula in the schools and new strategies of teaching. It is a change from a society in which people were fitted into existing roles, where the role rather than the incumbent was important, to one in which the social structure and its roles are flexible and open to considerable modification by the actions of individuals.

C. The Community School

But the changes in curriculum and methodology are by no means the only changes that have to be reckoned with in the training and retraining of teachers. In the past few years an important new strategy of organisation has attained widespread support in the English educational system. This is the community school wherein the school becomes

increasingly involved in the community it serves and conversely the community becomes increasingly active in the affairs and even in the control of its schools. Again it is unnecessary to explore this development in detail here; it is already the subject of investigation by the Centre for Educational Research and Innovation of OECD (1973). In England and Wales a powerful impetus to the community school has sprung from the work of the educational priority areas. Halsey, in his report of the research project sponsored by the Department of Education and Science and the Social Science Research Council (1972), states:

> "...one could hardly escape the view that equality of opportunity was, without equality of conditions, a sham. Home circumstances were obviously critical and these in turn were adversely affected by class and neighbourhood patterns. The school, where, after all, the children spent only five hours of the day, seemed comparatively powerless to alter matters radically of its own volition. Assuredly, a decision to consider the Education Priority Area (EPA) school its communal setting was a wise one, and the Plowden Committee had been well advised to recommend that community schools should be developed in all areas but especially in EPAS."

Recently, one of the major British education authorities, the Inner London Education Authority, has committed itself to extensive developments in this area with particular reference to its inner city areas(1). At this stage it is only necessary to emphasize the further major requirements on the teacher's role that spring from developments of this kind. As Cooksey puts it (1972):

> "The growing interaction between education and society on the relevance of the one for the other can be a source of creative energy, and an opportunity for deepening understanding on both sides - or it can be a source of conflict. For teachers it means a further voluntary sharing of their professional problems with the rest of the community - and at a time when many new challenges to their traditional skills threaten their professional confidence."

The potential challenge to the long-standing roles of the teachers is clearly very great indeed and fundamental changes may arise. Again the implications for teacher training and retraining are obvious.

D. Changing Educational Technology

Alongside the fundamental changes that have been described so far are others of a second order that greatly facilitate and advance them. These are the greatly increased ranges of educational technology here defined in its fullest sense. These run from the simplest of teaching aids to sophisticated video recording systems, resource centres and retrieval systems. Alongside these, a growing range of interpersonal and group techniques is developing that has considerable relevance to the day-to-day exchanges between teachers and children. A recent definition of educational technology saw it as being "concerned with trying to find systematic ways of applying existing experience and knowledge of resources and methods to the problem of education and training" or, to put it another way, "educational technology is the development and application of systems, techniques and aids to improve the process of human learning" (National Council for Educational Technology, 1969).

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(1) In a report An Education Service for the Whole Community (1973).

Again it is unnecessary to detail the development of educational technology; this has already been the subject of a range of national and international reports. The close links of educational technology with teacher training have already been implicit in the reference made to the innovation development project of the National Council of Educational Technology (1969).

Very closely linked with educational technology are the new strategies in assessment and guidance where, largely in response to the diminished relevance of tests of memorisation and uniform performance, we are moving to find new ways of assessing and evaluating the achievements of pupils. These may include new strategies for public examinations, new group examinations in which the work of several pupils is presented jointly and an enthusiasm to find alternative forms of response than those relying on the written word. Shipman (1971) in discussing the problems of assessing work in the integrated studies project under investigation, noted that the traditional use of tests, essays and examinations was inappropriate now that the product of the integrated work might be a skill in finding out, an exhibition arranged by a group of children or a tape recording. Work could no longer be assessed as the learning of facts by individuals. An important technique that offers considerable potential for the future is that of item banking, the assembly of a data bank of questions and assignments from which appropriate items to match the attainment, age and special interests of the pupil may be drawn (Wood and Skurnick, 1969).

All the changes in educational technology that have been noted operate at two levels in teacher training. Not only are they changing the situation in the schools wherein the trainees and experienced teachers perform their professional duties but they are also changing the techniques of teaching within the training establishments themselves. A number of important examples of these changes occur in the subsequent report. But it is important to notice now that educational technology is performing this dual function - it is not only changing the objectives of the training course but also changing the processes whereby these objectives are achieved.

E. Changing Administrative and Policy Factors

The changes in the work of the schools, to which attention has been given in the previous section, are at the heart of the administrative and policy developments in the training of teachers in England and Wales. The interpenetration of school and community has provided an important argument for the breaking down of the relative isolation of teacher training establishments and there has been a rapid move towards the elimination of monotechnical establishments of professional preparation and the development instead of a wide range of multitechnic establishments of various kinds in which teacher education and teacher re-education can take place in a wider educational context.

Another major consequence of the changes has been the reappraisal of the need for in-service education. The changes, to which attention has been drawn, indicate a state of affairs where even the most enlightened initial training will not be fully relevant to the needs of the teacher after even only a few years of service. Accordingly, new strategies for in-service education at various stages have developed rapidly in the past ten years. Associated with these has been the recognition that more appropriate arrangements are needed for the first or probationary year of teaching service for all beginning members of the profession.

But, as always, changes in teacher education need to be set in a wide context. In Britain this context is most notably the context of the expansion of post-secondary education. An important feature of the re-thinking of teacher education has been the need

to respond to the growing demand for continued education by an ever larger sector of the relevant age groups in Britain.

F. The 1972 White Paper

All these factors have come together in the White Paper on Educational Re-organisation (1972). The recommendations of the White Paper owed a great deal to the report of the Committee on Teacher Training set up under the chairmanship of Lord James and which reported some six months before the publication of the White Paper.

The White Paper, now accepted by H.M. Government, makes fundamental changes in the organisation of teacher education and is, in itself, an innovating document of great importance. Some of the major objectives of the White Paper, which spring from the report of the James Committee, are the large and systematic expansion of in-service training; a planned reinforcement of the process of induction in the first year of teaching; progressive achievement of an all-graduate teaching profession by means of a new pattern of courses "without loss of emphasis, on the development of professional skills"; the improved training of Further Education teachers; the integration of the colleges of education into the higher education system and changed arrangements for the control and coordination of teacher training and supply both nationally and locally. Summarizing these objectives the White Paper affirmed:

> "This goal is no less than building a body of teachers well prepared, academically and professionally, to sustain confidently the formidable task to which they are called: to guide each generation of children into a full appreciation of our culture, to quicken their social and moral awareness, to enhance their intellectual abilities to the highest standard of which each is capable, and to develop their practical and human skills so that each may be enabled to make his or her maximum contribution to the health, wealth and harmony of a democratic society."

1. The New Structure of Higher Education

The detailed proposals that follow in the White Paper may, insofar as the development of teacher education is concerned, be summarized under three headings: administrative, academic, and professional.

Under the academic heading the most notable development is the close linkage of institutions of teacher education with other sectors of the higher education system. When reorganisation has been completed there will be two main routes to professional teaching, both of them involving graduation as well as professional training. The old non-graduate teacher qualification will virtually disappear. Neither of the routes will involve a prior commitment to teaching, both involve an element of choice during the path through tertiary education and both provide a qualification that has wider uses than teaching alone, thereby ensuring the continuance of choice to the student after graduation. The first route will be similar to the present pattern of graduation in the ordinary way at a university followed by one year of professional training, though the increasing proportion of the one-year courses of training will take place in establishments that used to be teacher training colleges rather than largely at universities as now. But the second route is entirely new and will largely supplant the present non-graduate teacher training college course. Under this arrangement candidates will enter polytechnics and other advanced further education colleges and possibly some universities to take the new two-year higher educational qualification, the Diploma in Higher Education. Towards the end of this course some of those students who wish to become teachers will have the opportunity to follow this Diploma course with a one-year course in education and other subjects

which will lead to an ordinary degree in education (the B.Ed.) or a two-year course in education and other subjects leading to the degree of B.Ed. with honours. With both patterns of qualification the qualified teacher will still need to undertake a probationary year in the schools in which he will receive a guided introduction to the teaching profession with the aid of a professional tutor, usually based in the school, and with release from his teaching duties to attend courses in local colleges or teachers' centres. A notable feature of these new academic arrangements is the way in which they are already giving rise to an increasing interest in the study of education as a subject in its own right in studies for degrees and diplomas. Already some thirteen British universities are providing undergraduate courses of study in education and the students following them are by no means restricted to those who wish to enter the teaching profession.

2. New Institutional Forms

At the administrative level a number of new kinds of institutions of teacher education are emerging. There are three main patterns that are being formed from the old teacher training colleges. One is the linkage of teacher training colleges either separately or in groups to polytechnics. Here they tend to be envisaged as units of the polytechnics that are likely to take a special interest in professional training not only for teaching but also possibly for librarianship and, in some cases, social work activity. In addition there are plans for all these proposed linkages to allow the former colleges to take a more general part in the academic work of the polytechnics, usually in the provision of CNAA degree courses, in a range of subjects as well as for the B.Ed. degree in its ordinary or honours form. A number of such arrangements are now well advanced, for example, a number of proximate colleges of education are now in an acute stage of liaison with Hatfield Polytechnic; still others with Newcastle Polytechnic.

The second form of linkage is the amalgamation, in various ways, of existing colleges of education to form larger new units of advanced further education. The Secretary of State for Education has already approved one such merger between Crewe and Alsager Colleges in Cheshire. The argument for the merger envisaged a large combined college offering a wide range of courses for initial and in-service teachers' training alongside a wide range of non-teacher education courses at diploma and degree level. Across this range, it was envisaged that "each lecturer within his or her individual capacity should make a contribution to each need; in this way the amalgamated college could offer a richness of capacity and resources not available to either college operating independently". Despite considerable uncertainty and public debate, notably arising from the larger of the two Colleges - Alsager - that felt it was capable of "going it alone", the merger was ultimately agreed and a joint Principal appointed. An enlarged version of a similar strategy is now underway in the Inner London Education Authority where links between a total of sixteen colleges of education are proposed ranging from loose forms of association to amalgamation. Voluntary (church) colleges envisage further amalgamations, for example York and Ripon.

The third form of linkage is that between an existing college of education and a university. Although this form of linkage had considerable attraction for many colleges of education in the months immediately following the White Paper, it has become clear that H.M. Government policy is not enthusiastic about such arrangements. Nonetheless, Ministerial approval has recently been given to the amalgamation of Loughborough College of Education with Loughborough University of Technology. Detailed proposals for this amalgamation along with an amalgamation of the Loughborough College of Art and Design which has yet to be approved, have been published and may be quoted as they offer an

important example of the thinking that is currently taking place on innovation in teacher education that have a far wider relevance than the events at Loughborough alone: "We have referred to integrating the educational resources of the three institutions. The most suitable means would be to introduce a course structure similar to the Cambridge Tripos. Many of the University's courses are sandwich courses in which the third year is spent in industry. We propose that in the enlarged University there should be two-year Part I courses, reasonably complete in themselves, followed by one-year Part II courses. The two Parts taken together would be a degree course. Not all the University's present courses lend themselves to this structure, particularly those in which professional training occurs in each of the first three years of a four-year course and we would not expect these courses to be restructured, but the majority of the University's courses could soon adopt this principle. We would expect most students to take a Part II which was the natural sequence of a Part I course, and the two parts taken together would yield an honours degree course virtually indistinguishable from current courses. But the important advantage lies in giving the opportunity for a student to change the direction of his studies at the end of two years; to change the emphasis in his studies, or develop new interests or ambitions, one of which might well be the desire to become a teacher. This structure would have particular merit in providing for the integration of the resources of the Colleges into the enlarged University's courses. The course structure at undergraduate level to which the Colleges of Education are accustomed will disappear, and we believe that what we have in mind will afford versatile means of enabling the College's academic departments to contribute to new courses at every level."

As well as these three forms of reorganisation (of which the third is likely to be the least representative and yet interestingly is, at the time of writing, one of the most advanced in planning), there are also a number of developments of the previous pattern of organisation in that a number of the larger colleges of education are, because of their size, able to diversity without amalgamation or merger. Two notable colleges that have indicated their plans to "go it alone" are Didsbury College of Education, Manchester, and Bulmershe College of Education, Reading.

In addition, of course, university involvement in teacher education remains. This is largely through its long-standing provision of one-year postgraduate courses for graduates who wish to become professional teachers. These courses will remain though it has been made clear that any expansion called for in this provision will be made in the former colleges of education and not in the universities. The University Grants Committee has recently made it clear to universities that no new Education Departments are likely to be approved in British universities. The universities also have, like the colleges, important involvement in in-service arrangements but here again it appears likely that the growth of these facilities will take place outside the universities rather than within them. The main growth area for educational studies in the university appears to be in the study of education as an undergraduate subject to which reference has already been made - an area currently being encouraged by the University Grants Committee. Certainly there is every indication that the administrative functions exercised by the universities in teacher training through the Area Training Organisations are likely to diminish substantially when the control and regulative functions of teacher supply are taken over by the new Regional Committees. Whether or not this will still leave universities with a validation function or whether validation of professional awards will pass wholly to the Council for National Academic Awards is, as yet, uncertain. Much will depend on the enthusiasm of universities to continue this work.

3. Professional Implications of the White Paper

It is important to consider the professional aspects of the White Paper; in many ways perhaps the most important in their innovative consequences. Though they will be discussed more fully in subsequent sections dealing with innovation, it is useful here to indicate the White Paper's recommendation on the two central areas of professional development - in-service training and the probationary year.

On in-service training, the White Paper recommended that all teachers should be entitled to release for in-service training for periods equivalent to one term in every seven years of service in the first instance. It was estimated that the actual take up of such an entitlement would result in 3 per cent of the teaching force being absent on secondment from schools at any one time, thus involving a four-fold increase in the present opportunities for in-service training. The agreed aim is that the expansion of in-service training should begin in the school year 1974/75 and therefore continue progressively to reach the target of 3 per cent release by 1981.

On the probationary year, it was considered that teachers should experience the kind of help and support needed to make the induction process both more effective and less daunting than it has often been in the past. It was therefore considered that they should be released for not less than one-fifth of their time for in-service training. For the remainder of the time they should be serving in the schools but with a somewhat lightened time-table so that altogether they might be expected to undertake three quarters of a full teaching load. Alongside this provision the government has agreed that professional tutors should exist in the schools supernumerary to existing staffs and that also a network of professional centres should be established based on existing training institutions and teachers' centres.

The changes in the probationary year alongside with the development of in-service training bring about a further important innovatory change in professional education in that they involve far more fully than heretofore the participation of practising teachers in the induction of new colleagues and in the development of their own and their colleagues' in-service retraining. For not only will the restyled probationary year take place under the guidance of teachers in the school to a very considerable extent, but also the in-service training will be substantially taking place in teachers' centres organised and staffed by practising teachers. The detachment of professional training from the profession itself that has been a marked feature of many of the arrangements in England and Wales, will be greatly diminished as a result. Together with the integration of teacher education itself more centrally into the broader patterns of tertiary education, it is quite clear that the White Paper brings significant changes to the context in which teacher training takes place.

4. The Supply of Teachers

Underlying all these innovatory features of the White Paper is the calculation of projected numbers of entrants to the teaching profession. The calculations are based upon the objective of securing a total supply of qualified teachers by 1981:

(a) To ensure that the number of teachers in publicly maintained primary and secondary schools for pupils aged five and over should be 10 per cent more than the number needed to preserve the staffing standards achieved in 1971 for the more numerous and relatively older pupils of 1981;

(b) To staff the planned expansion of nursery education on the basis of thirteen children to each adult member of staff, with qualified teachers representing at least 50 per cent of the adult staff (i.e. a pupil/teacher ratio of 26:1) and

(c) To provide for the replacement of teachers to be released for induction training for probationers, and for other in-service training on a scale of 5 per cent of the full-time teaching force at any one time.

These objectives together with detailed calculations of teacher/pupil ratios, birth rates, staying-on rates, and similar variables led to a projected requirement of teachers in 1980/81 as follows:

RECRUITMENT TO THE MAINTAINED SCHOOLS IN 1980/81

Re-entrants		16,000
New entrants		
One-year trained graduates	14,000	
Three and four-year trained teachers (B.Eds. etc.)	16,000	
Other (teachers trained in art teacher training courses and colleges of education (technical); untrained graduates, etc.)	1,000	
		31,000
	Total	47,000

The critical factor underlying these calculations, however, has been the prediction of the growth of the teaching force. It has been calculated that an appropriate growth may be obtained by a gradually reduced addition to the stock of teachers in the years between 1974 and 1980. The projection of teacher increase ranges from 18,000 in 1974 and falls gradually to 6,000 in 1980. These figures are central to all the other features of the White Paper in that it is this reduction of expenditure on initial teacher training that is likely to release funds for the other developments to which attention has been drawn and, indeed, for the more general provision of the additional places desired in post-school education. Yet these figures have been the basis of very considerable debate and there is a considerable body of opinion that regards them as misguided.

A recent statement of the National Union of Teachers (NUT) presents the matter as follows:

"The Department of Education and Science (D.E.S.) have recently written to Area Training Organisations (A.T.Os), Colleges of Education, Polytechnic Departments of Education and other interested parties (A.T.O. letter 2/73) informing institutions that if the projections of the White Paper, Education: A Framework for Expansion, and Circular 7/73 are to be realised it will be necessary to reduce intake of non-graduate students to courses of initial training in colleges of education and polytechnic departments of education from an estimated 36,000 in 1973-74 to 32,000 in the academic year 1974-75. On these assumptions [that the total number of initial training places required in 1981 will be 60-70,000, and that the adjustment in recruitment will begin as early as possible, i.e. September 1974] the output from training was expected to fall from 45,000 teachers in 1975/76 to about 35,000 in 1980-81, of whom about 18,000 would be from one-year post-graduate courses and the rest from three and four-year B.Ed. courses and any remaining certificate courses. Most of the balance of recruitment would consist of re-entry into the profession of former teachers 'mainly married women, the rate of re-entry increasing from 14,000 in 1973 to about 16,000 by 1981'. The

A.T.O. letter continues: 'The estimates and assumptions described above, together with allowances for in- and end-course wastage at current rates, would require the annual recruitment to such courses to be reduced progressively to about 20,000 by 1977-78 and about 18,000 by 1980-81'.

The National Union of Teachers, however, does not accept that the size of the teaching force required for maintained schools is of the order of 510,000 and that teacher supply projections should be framed with such a target in mind. The Report of the Manchester University Department of Education has demonstrated that to severely reduce teachers supply on the basis of one projection is extremely hazardous and could well have serious educational repercussions on the children in our schools. Furthermore, the Report suggests that the D.E.S. projected teaching force of 510,000 might well be an underestimate of some 60,000. Hence the National Union of Teachers cannot agree to cuts of this nature and hopes that A.T.Os, College and Polytechnic governing bodies will be sympathetic to the N.U.T. viewpoint on this matter."

The Report of the Manchester University Department of Education referred to in the NUT statement was in fact a report prepared for the NUT by three Manchester University lecturers (Morris, Ryba and Drake, 1973). The debate that has followed this conflicting set of figures has been lively and opponents of the government figures have suggested that the figure of 510,000 teachers will produce schools that are "desperately" short of teachers, will run down valuable teacher training institutions and miss one of the biggest opportunities to improve pupil/teacher ratios since the 1944 Education Act. It is unlikely that there can be any convenient resolution of a debate over techniques of forecasting but it is important to note that if the governmental figures are wrong it is likely to place in jeopardy many of the innovations that at present appear to be likely to spring from the White Paper and, in turn, this would mean that many of the developments to which attention is given in this report may fail to reach fruition. But it is, however, hopeful to notice that the government projections now appear to be based upon a sophisticated weighted classification of the teaching profession in contrast to the single value figures that appear to have been available to the Manchester researchers. Nonetheless, the overriding impression left as the debate diminishes is that the figures are finely set and may well be thrown off course by quite small-scale unanticipated changes in the variables on which they were based.

II. AREAS OF INNOVATION

Having undertaken the essential but inevitably lengthy task of reviewing the complex background to innovation in teacher training and retraining in England and Wales, it is now possible to proceed to a detailed account of specific innovations. These innovations will be presented briefly and independently in four main sections:

A. Changes in Curricula and Courses;

B. Developments in Educational Technology;

C. Developments in the Presentation of Professional Experience;

D. In-service Training and Retraining.

In order to simplify the presentation, details of reports of the developments will be given without an attempt to interrelate the underlying factors in the style adopted in Part I. But in reading this Part, it should be noted that, as in Part I, the interplay

between the various innovatory activities is considerable and a full understanding of the significance of any one calls for a considerable breadth of understanding of the total picture.

A. Changes in Curricula and Courses

1. Integrated course structure

One of the major initiatives currently taking place in the teacher training courses is the adoption of integrated courses of study that replace the long-standing specialist subject courses. The subject courses were, of course, devised so that teachers could be specialists in recognised areas of the curriculum - language, mathematics, science and the like. The move to integrated courses springs in part from the development of new inter-disciplinary approaches in the schools' curriculum, such as the Humanities Project, the Integrated Studies Project, and Project Technology and, in part, from the belief that the perspective of students should be focused on the needs of the child as a whole rather than on the specialist needs of the subject. The debate, of course, is an old one - it is another manifestation of the long-standing conflict between specialist and general practitioners. What are new are the interesting, even exciting, new areas of knowledge that are being developed with and by students for use in the curricula of the schools in which they will teach.

A notable development of new college curricula has taken place in three of the colleges associated with the Lancaster School of Education. This is the course in applied education which replaces the main and subsidiary courses for experimental groups in Charlotte Mason College, Chorley College and Blackburn Annex to Chorley College. The project is funded by two grants from the Department of Education and Science. The first has been awarded to Westmorland County Council to provide for the implementation and co-ordination of the innovatory course. The second grant has been awarded to the Department of Educational Research at the University of Lancaster for the evaluation of innovatory courses. Within each college some eighteen to twenty-five students are taking the course. The course contains twelve modules as follows:

Mathematical Education
English Education and Language
The Organisation of Learning
Moral Education
Movement and Drama
Applied Art and Design
Education through Music
Environmental Studies
Social Studies
The Disadvantaged Child
The Teaching of French
Applied Studies

Somewhat similar experiments at Crewe and Madeley Colleges of Education conducted in association with the University of Keele Institute of Education have now developed into a substantive programme followed by most students at the two Colleges. This is the Curriculum Studies Course - an integrated programme taking the place of one of the two main subject courses formerly required. Like the Lancaster courses this arrangement sprang initially from the impetus of integrated work in the schools in particular that of the Keele Integrated Studies Project directed by Mr. D.J. Bolam and also from the belief that the specialised subject-based courses were not necessarily the most appropriate

means of initial teacher education. In particular the course endeavours to introduce students to a general theory of curriculum that will have relevance to the full range of the decisions on curriculum they will be called upon to make in their teaching careers. Students are introduced to the nature of curriculum decision-making and alerted to wide opportunities to exercise it; they are also made aware of the nature of knowledge in the curriculum and the ways in which its availability distribution and evaluation are linked to the process of social control.

In the first year of study the curriculum studies programme requires all students to examine the curriculum in mathematics, English, physical education, religious education, arts and crafts and music in relation to the needs of their chosen age groups. In the second and third years of their courses students select two areas of study from the following list:

Life Sciences
Environmental Studies
Man in a Technological Age
Physical Education and the Use of the Environment
The Creative Arts Today
Man's Search for Meaning
Mass Media
Studies Based on Literature

There is evidence that the curriculum studies course is bringing students to the point where they are able to initiate new approaches in the schools at an early stage after completion of their initial training. With the support of the college and local education authority a number of former students have participated in introducing a new integrated programme - Man: A Course of Studies - in a number of schools in the past year. An account of this work, in part inspired by Brunner's Elements of Man's Humaneness, has recently been published (Morgan 1975).

2. The Development of Strategies for Compensatory Education

The identification of children in special categories of need has been a recurring feature of English education and colleges have regularly responded with courses of teacher education to match new needs. For example, courses for the teaching of educationally subnormal children, physically handicapped children, the deaf and the blind are now of long standing. More recently the growing awareness of "cultural deprivation" or "social handicap" has led to a number of courses with such orientations in the colleges. One of the most notable experiments in this area has taken place at Edge Hill College, Ormskirk, where an attempt has been made to train "teacher/social workers". Here the idea has been that during the course of preparation for teaching, students should also learn some of the skills of social work so that they may play an active part not only in appropriate activities with socially handicapped children in the schools, but also to exercise some of the skills of the social workers in working with the children at a school and in the establishment of contacts with parents, employers and other members of the community. A further benefit to be obtained from these courses was the greater capacity of teachers so trained to establish closer liaison with professional social workers serving the families of the children they taught. The Edge Hill courses are well known and have been described in detail by Craft (1967). Many similar courses in other colleges and university departments of education owe in part their inspiration to the initiating work at Edge Hill in the 1960s, even though one of the early hopes of such courses - the establishment of a dual qualification - has never been realised.

More recent initiatives in this field have sprung from the concept education priority to which attention was drawn in an earlier section. Here the report of Halsey (1972) and the writings of Midwinter (1971) have been particularly influential. A Nuffield Foundation-sponsored project at the University of York entitled Enquiry into the Preparation of Teachers for the Socially Deprived was set up to involve teachers "in the identification and resolution of teaching and school problems in relation to the education of the disadvantaged and to identify and develop means of increasing communication within the community about education". The inquiry is now complete and its findings are in the course of publication. Essentially they recommend the establishment of permanent information units and further research on the strategies of teaching in "downtown" schools. They call for a redefinition of what is labelled "successful" performance in schools and a wider range of approved methods of speech, communication and expression, arguing that in teaching success is characteristically defined in a restricted range of "middle class" modes thereby making it inevitable that many non-middle class children will be defined as "failures".

Though the project has not produced a detailed set of strategies whereby the new approaches may be implemented, there is no doubt that it has exercised influence on the developments in a number of college courses in this area and it has brought colleges into touch with a number of community development projects that have been associated with or inspired by the Education Priority Areas project conducted by Halsey. In particular courses and liaisons of this kind are to be seen at Coventry College of Education, Didsbury College of Education, Manchester, the North London Polytechnic and several of the Liverpool Colleges of Education.

3. Changing Values of Teachers in Initial Training

All the developments in new curricula that have been reviewed have, as a central aim, the inculcation of certain values in the students who experience them. It is widely recognised that unless students come to have an appreciation of the values implicit in integrated approaches, compensatory programmes and the like, then they are unlikely to be effective in putting them into practice in the schools. Many observers have been this as the key problem in bringing about change in education. Pidgeon (1971) wrote "inevitably when an innovation or new teaching approach is publicised many schools and teachers jump on the bandwagon without full appreciation that their old way of thinking is now out-dated". In consequence a number of projects have been devised with the specific purpose of assessing the changes that take place in student values during the college course. One example is that conducted at Garnett College, London, by I. Macfarlane Smith (1972). Macfarlane Smith detected overall changes to a more democratic or liberal attitude during the college course. Though it was difficult to identify variables closely associated with this change, Smith suggests that it is likely to occur particularly on the student who finds himself to be a good or average teacher. Conversely, changes are less likely to be found in students who are either outstanding or very inadequate teachers.

One of the larger studies in this field is that of McLeish (1969) who sampled some 1,600 students in ten colleges of education. He commented that personality dimensions and basic personality values probably belong to relatively intractable areas that will be little affected by the experience of college, whereas it might be expected that social and educational attitudes would be "more amenable to the processes of persuasion, rational analyses and ideological indoctrination which go on during the years in college". A wide range of British findings, summarised by Cohen (1973) support Macfarlane Smith and McLeish in suggesting that students become increasingly "progressive" in their attitudes during the course of their college education but move in the opposite direction towards

more traditional beliefs when they experience the impact of full-time teaching.

Marsland (1969) made a notable attempt to identify the structural factors in the colleges that seemed to be of the greatest influence in bringing about change in students' attitudes and values. Marsland's data suggest that during the course of their professional training students became:

i. Increasingly educational and less academic in their orientations to teaching and class-room behaviour;
ii. Less committed to the school organisation and its requirements;
iii. Less concerned with career (status, income promotion) prospects and more concerned with vocation (commitment to the worthwhileness of teaching and the satisfaction of service);
iv. Increasingly modern and less traditional in their beliefs about teacher involvement in the community;
v. Increasingly affective and less affectively neutral in their definition of the teacher's role vis-à-vis others;
vi. Increasingly progressive and less traditional in their educational philosophy and methods;
vii. Increasingly specific and less diffuse in their teacher role definitions.

A somewhat different study was undertaken by Miller (1972) who explored social awareness and motivations of student teachers who explored the aspirations of beginning teachers and found that aims such as working with people, contact with young people and service to the community tended to predominate, giving a picture of people with considerable social awareness who do not rate social status and material incentive as being of overriding importance; a group of characteristics suggesting responsiveness to courses that appear to offer the promise of successful or even enhanced fulfilment of these objectives.

Associated with the development of integrated courses and compensatory programmes there has, not surprisingly, been a considerable range of initiatives in the teaching of social science in many colleges. Reid (1972), reviewing these, has suggested that students attracted to the social sciences tended to bring a commitment and competence to the teaching situation that resulted in their obtaining high grades for their performance in the class-room. This was a finding contrary to many expectations; it had been believed that social science, being virtually a "non-school" subject, would have had less contribution to make towards class-room competence than the more generally taught "curriculum".

4. The Science Teacher Education Project (STEP)

Like many of the other curriculum innovations in teacher education the causal factors here spring from the new curricula in the schools to which the colleges and other training institutions respond. This is especially true in science education where, since the 1960s a new emphasis on activity methods has taken place. In the colleges it became clear that understanding and skill objectives were increasingly important; it was necessary for students not just to have knowledge of how children acquire concepts but also skill in applying this knowledge to the preparation of lessons; not just knowledge of laboratory hazards but skill in anticipating and preventing accidents.

Long lists of qualities that a course of initial training for science teachers might foster were drawn up but these did not in themselves provide the basis for development work on teaching methods. Here attention was concentrated on individual learning experiences and tutors were invited to contribute ideas for activities for student teachers.

Over 200 separate ideas for appropriate activities were received and grouped under topic titles. Twelve topic groups with three to five tutors in each were established to work up the best suggestions into a form suitable for general circulation. Topics on which curriculum units have so far been prepared are:

Aims and Objectives
Conceptual Thinking in Science
Methods and Techniques
Resources
Laboratory Design and Management
Safety
Age and Ability
Teacher/Pupil Interaction
Understanding and Communication
Assessment and Feedback
Curriculum Design
The Social Context of Science Teaching

Each curriculum unit was written up in an approximately standard format which included (i) what the students actually need to do and the ideas for the college tutor's role ("suggested approach"), and (ii) strategies for helping them to do this. These were stated in terms of the qualities that it might be expected to enhance in them.

The objectives were included in order to sharpen thinking about the activity, so that its quality could be refined and improved. For example, in the case of a safety exercise based on descriptions of actual accidents, the main objective was thought to be an affective one - getting the students to feel responsibility for their pupils. With this in mind the exercise was improved by including a tape recording of a pupil talking about an accident that had happened to him and by providing time for the student teachers to discuss, in small groups, questions which placed them in the role of the teacher and/or parent.

The following are some important features of the STEP curriculum units:

a. They are concerned not with the content of science but with pedagogy; that is, with methods of teaching and related aspects of psychology, sociology and philosophy;
b. They involve the students in activity. A variety of activities are included - small group discussion, analysis of tape recordings of children, or of films of parts of lessons, team planning, team teaching, writing, teaching small groups, testing children, testing oneself, observing pupils or teachers with an observation record sheet, role playing and so on;
c. They are short - often not more than two hours;
d. They carry a note on objectives, expressed not strictly in behavioural terms but in terms of qualities that might be enhanced. Users are asked to look for behavioural symptoms of these qualities.
e. Many of them use resource materials such as films, video-tapes, slides or sound tapes.

The earliest of the reports from tutors and students shifted attention strongly towards motivational considerations and led to more detailed questions about the reasons why students respond well to certain kinds of activity. There is evidence in the data so far that some activities meet social needs of students to a degree that was only dimly

suspected beforehand. In the trials at present taking place attempts are being made to ascertain how each of the activities meets or fails to meet those needs of students which determine the extent of their involvement. The early reports have also indicated that by having the students involved in activity it was easier for tutors to discern their present state of understanding. The latest report form contains a question specifically on this point: "which student activities have a good diagnostic quality, improving tutors' own appreciation of the students' awareness"?

B. Developments in Educational Technology Including Teacher-Student Relationships

1. The Colleges of Education Learning Project

One of the major areas of development in the colleges has centred on the activities that have preceded the introduction of the Colleges of Education Learning Project. For the first six months of 1971 a study team established by the National Council for Educational Technology examined the needs of the colleges of education for learning materials and designed a system for producing and distributing these materials. It was envisaged that these would include study guides and programmes for use by individuals, small groups and classes. The study team agreed that educational technology was not to be equated with audio visual techniques, however sophisticated. The phrase must be taken in its widest sense to involve the defining of the knowledge, skills and attitudes students are expected to acquire, the selection of suitable teaching/learning techniques for the achievement of these purposes and the evaluation of the effectiveness of the courses and materials used.

The study team visited more than a third of the colleges of education. It became clear that the major problems in the development of educational technology in the colleges were:

- The lack of an information service about available materials;
- The lack of machinery for designing, producing and testing the learning materials;
- The lack of machinery for enabling the decision-making bodies in the colleges to test the materials and the approach for themselves;
- The lack of any consultancy service to which colleges could turn for advice in this field, whether in the design of materials, the defining of objectives, the evaluation of courses or the design of resource centres.

In the light of these objectives the National Council for Educational Technology produced a working paper and in due course a proposal for a development project which has now been funded and is in the process of implementation. The aims of the project are:

a. To help the colleges to make the fullest and most effective use of the study materials in the various media already available from within the college system itself and from other sources, including the broadcasters and commercial suppliers;

b. To help the colleges to develop their individual and cooperative production of evaluated study materials in accordance with their felt needs, using existing facilities;

c. To help the colleges to express their requirements for study materials to the broadcasters and commercial suppliers and to improve the existing feedback paths for comment and evaluation;

d. To help college academic staff to develop their understanding of the principles and techniques of educational technology;

e. To help colleges to develop their procedures for the organisation and management of study materials and associated resources.

The activities of the project are based at a number of the colleges, notably St. Mary's College, Twickenham, and also among others at Avery Hill, Bath, Bede, Coventry, Edge Hill and Loughborough.

2. Syndicated Learning Groups

An important initiative sprang from a number of college lecturers who formed a group to develop a course in the sociology of education using syndicate methods. The term "syndicate" is used, in this context, to describe a small group of students (about 5 or 6) sometimes self-selected, within a class (usually between 20 to 30 but numbers may be higher). They work jointly on assignments in the form of a series of questions on problems coupled with an appropriate detailed reading list and any other stimulus materials. Each syndicate is a forum for discussion and learning and on the basis of these activities a written or oral report is prepared to serve as a basis for discussion by the whole class. The tutor in charge may decide to give a lecture aimed at synthesising the reports and/or offering supplementary conceptual frameworks according to his judgment of the state of his students' learning. This is one application of a syndicate method; there can be variations on this general pattern.

The overall objectives of the syndicate method are to create a learning situation which will enhance motivation and involvement on the part of students so that they may develop a more independent attitude and critical judgment towards the subject matter they are studying. This is thought to be important in those areas of study which require the student to internalise learning so that it may inform his professional conduct. Internalising, however, requires that the student not merely absorbs learning but develops the capacity to scrutinise arguments and their evidence and to acquire the capacity to form and test by hypothesis before he makes a synthesis for himself. When he is a practitioner this mode of working as a student should enable him to think through problems in a more systematic way.

To date, the working party's members have developed a substantial core curriculum in the sociology of education which has been used, with modification and development, in six colleges of education. There is evidence from this and other experiences that other areas of study can be treated using syndicate methods. The working party has met regularly to discuss the project and its continued development which has included trial evaluation.

The project is innovative in three ways:

i. The syndicate method is being used in a systematic and sustained fashion in teacher education on a cooperative basis between members of staff;

ii. It allows for the possibility of a collaborative restructuring of the roles of teacher and taught around a specific educational task;

iii. It opens up the possibility of providing students with a different perspective on the status of knowledge which can be seen as under a constant need for re-scrutiny and re-definition.

Arising out of the formal developments of the work in syndicate methods, a major project has now been funded by the Department of Education and Science and will take place in six colleges of education including Bede, West Midlands and Strawberry Hill Colleges. The aims of the project have been formulated as follows:

- To continue to develop and monitor in individual colleges innovations in the teaching and learning of the sociology of education using syndicate methods, by the close study of the "instructional systems" and the "learning milieux";

- To identify, understand and illuminate the social processes and rules engendered by the use of syndicate methods and to see what interplay there is between syndicate methods and other teaching methods used in individual colleges;
- To consider in what ways the different cultures or climates of colleges may influence the adoption and effectiveness of syndicate methods;
- To abstract from the studies in individual colleges what general patterns exist so that the functions of syndicate methods may be identified;
- To appraise the usefulness of the common core materials in the scheme;
- To contribute to the understanding of innovation in colleges of education;
- To explore and exemplify different approaches to the evolution of an innovation and observe their effect on the development of the scheme.

C. New Developments in the Presentation of Professional Experience

The ways in which beginning teachers come to experience the work of the class-room is a focal area of innovation. This is hardly surprising for here the training establishment and its staff are exposed to the unshielded gaze of the practitioners in the class-room. The folk culture of the profession is rich in legend. Allegedly the student arrives in the school full of college-inspired faith in the individual goodness and creativity of children with fanciful lesson plans suggested by lecturers who have not taught for many years, devoid of knowledge of how to control the turbulent and restive oversized classes and supervised by an unknown tutor who, in her last hurried visit to the school, inadvertently assessed the teaching of the young head of the Mathematics Department. In such circumstances the student is in a double bind. Not only is his faith in the credibility of the college shattered by the school staff, he is also overwhelmed by their enthusiasm to help him to "really get to know the job". Teaching practice becomes an undercover initiation into an alternative style of teaching unrelated to the work of the college. Problems may indeed arise when the college assessment takes place but the school staff are loyal to their student and conspire with him to put on the sort of show that can be relied upon to satisfy the college. Once this is over the student, now a qualified teacher, can safely forget the college courses and get down to a lifetime of proper teaching. Though the caricature is crude, it is, like other criticisms, not entirely unjust. Certainly it is in teaching practice that some of the more encouraging developments in teacher training are taking place.

1. Teacher-Tutor Schemes

There is a rich variety of these schemes, all of them aiming to improve communication between schools and training institutions. All involve giving serving teachers special responsibilities for the practice of students in their school or group of schools in a way that brings together teachers, college tutors and students in a working relationship. The "teacher tutor" can offer day-to-day advice to the student that relates his college work with his teaching in the school in a way that a visiting tutor or a teacher attached to the college seldom can. He may make the arrangements for the college students in his school and share in the assessment of their work. In discussion with students and tutors he can help to resolve some of the inevitable conflicts and free the student from some of the burdens they bring. He may undertake teaching responsibilities at the college, possibly exchanging some duties with a college tutor who may in turn teach his classes in the school. He may even take responsibilities for appropriate students in nearby schools as well. He may be specially appointed to undertake the task with a salary jointly contributed by the Local Education Authority (LEA), college and university. By whatever means he is chosen he is likely to be a teacher whose work is attractive to the college

as well as to his colleagues.

Arrangements of this kind have been established at Leicester, Bristol and Keele University Departments of Education and in many colleges and are well regarded by teachers, tutors and students. They provide a means of incorporating the essential component of experience into professional training without "selling out" to the view that experience alone is a sufficient basis for professional training. There are, of course, some difficult questions. Why should some teachers receive status and money for doing a job which, to some extent, all teachers with students have to undertake? What if the chosen teacher happens to be a bright young assistant when the senior head of his Department is anxious to be a teacher-tutor? Where questions of this nature are difficult to answer it may well be impossible to develop the teacher-tutor idea fully.

Many developments may spring from teacher-tutor arrangements. It is even possible to see them as a means whereby the schools could become the dominant partner in teacher training - for instance, as in a pilot scheme at Sussex University where the usual arrangements are turned upside down and the student is attached to a school and visits the college. The White Paper concept of school-based training in the probationary year takes the implications of the teacher-tutor schemes still further forward.

In all forms of teacher-tutor arrangements, and they are now many and widespread, two essential functions of the teacher-tutor are involved. One is his administrative function ensuring that the student finds his place in the school, is made aware of the requirements that fall upon him and the resources and facilities available to him. The other is the more personal, pastoral role in which his professional curricular and personal problems may be discussed. Whereas in the early stages teacher-tutors undertook both functions in a generalised way, there is now increasingly a differentiation into two forms of teacher-tutor relationships:

i. The tutor, who is an administrative member of the school staff and who is responsible for all student placements in his school and possibly even in nearby schools;

ii. The personal tutorship where the specialist teacher establishes a close personal relationship with a specialist student.

Already there are examples of schools where a student may have access to both kinds of tutor during, before and after his professional practice. The development of the White Paper's concept of the professional tutor is likely to increase this specialisation and differentiation of the role of the teacher-tutor and to bring about the full "institutionalisation" of these roles in the school system of England and Wales (though, as will be noted later, the concept of the professional tutor has a wider range of functions, serving not only students on teaching practice, but also probationary teachers and the staff of the school as a whole).

2. Micro Teaching Techniques

Micro teaching is widely regarded as one of the more important developments in the presentation of teaching practice. It "originated" in Stanford University in 1963. In a sense it is a visual and a personal development of the simulation techniques that are used to anticipate problem situations in a number of professional training institutions. The basic principles are simple. A student teacher teaches a short lesson of about five minutes duration to a small number of pupils. At the end of the lesson the pupils leave and the student discusses the lesson with his supervisor. After a short break the student repeats the lesson with a different group of pupils making use of the feedback from the supervisor to attempt to improve on his basic performance. Usually feedback to the student is enhanced by the use of some assessment instruments such as Stanford Teacher

Competence Appraisal Guide. It is a method in which not only the student but also the supervisor can play a considerably more active role.

An extension of the micro teaching technique is in the mini course, though this is still largely an in-service training device. A mini course is a package of materials produced by a training institution and sent out to schools. The materials include instructional and model video tapes, teachers' handbooks, self-rating forms and instructions to teachers on ways in which they may improve their teaching without the aid of a supervisor. Materials have, of course, usually been produced and validated in schools before being distributed in this way. In Britain the most notable development of micro teaching took place at the University of Stirling under the direction of Perrott and Duthie. At Stirling student teachers were required to practise five identified teaching skills in the course of a period of twelve weeks and micro teaching was regarded as an important strategy in assisting them in this task - a prelude to their professional experience in the schools. Subsequent work is being undertaken by Perrott at the University of Lancaster which is the subject of an OECD/CERI project.

Another major location of micro teaching and associated strategies is to be found in the School of Education at the new University of Ulster. Students are inducted into teaching in the second year of their course through twenty micro teaching experiences followed by longer sessions with larger groups of children later. The children are 9-13 years of age from local schools. The micro teaching work is integrated with the education courses and the specific skills are introduced by lectures in the educational psychology course and then applied to the teaching situation through micro techniques.

In the work at Stirling and at Ulster two further advantages of micro teaching have been noted. One is the way in which it may be used to develop the self-appraisal of the student, enabling him to develop his own assessment of his performance rather than relying heavily on external assessments in the manner that has characterised most teacher training courses heretofore. The other important feature is the way in which micro teaching is able to allow students to experience a "diminished perceptual load". In the micro teaching situation they are not expected at the outset to understand and respond to the complex and conflicting set of factors that they normally experience when they are first given responsibility for the work of a class-room.

3. Studies of Class-room Interaction and the Ecology of the Class-room

A major area of innovation has been the fuller exploration of the multitude of exchanges that take place in the class-room. This is in an attempt to enable students to be more aware of and more sensitive to the potential of the class-room situation and to help them to avoid "missing out" on potentially useful responses and stimuli. A number of projects in this area have been made in the colleges and teacher training departments of universities. A characteristic example is that of Cameron Jones (1972). Using a simple observational schedule with teachers, Cameron Jones assembled information on a wide range of interactions, many of them of a kind that would have been unlikely to have been noticed by students or teachers without the guidance afforded by such studies. It is illuminating to notice that in work of this kind many of the more structured and specific sets of class-room responses came from teachers who appeared to believe that their

class had the opportunity to give free and spontaneous comments.

Cameron Jones was able to point out that the most common reactions of all by teachers in the class-room were their critical ratings of the rightness or wrongness of pupils' responses. In her commentary she notes that assessment of initial teacher training students is commonly based on their capacity to "produce written answers and display knowledge of statistics and tests and measurements". She suggests that the quality of the face-to-face encounters they have with their pupils may well be of greater importance. A wide range of similar studies are to be found. Their importance lies not in the originality of the observational schedules envisaged, most of which to some extent derive from the pioneering work of Flanders and his associates in this field, but rather in their capacity to act, as the Cameron Jones study did, as a working tool for the sensitivation of beginning and even of experienced teachers.

But a further development of studies of class-room behaviour is to be seen emerging from the current work of the Sociological Research Unit of the University of London Institute of Education. There, Bernstein, Young and Davis and other workers have encouraged a number of students and practising teachers to undertake studies of class-room interaction at not only the level of description and analysis but also, more importantly, to go on to explore in detail the assumptions and perceptions with which the teachers and their students confront each other. One of the most notable published examples of their work is that by Keddie (1971) in which the ways in which teachers not only interact but make decisions about how curriculum knowledge shall be presented to or withheld from different children and the ways in which children react to their teachers' perceptions are discussed in illuminating detail. A number of further studies of this kind are in production or are waiting publication and promise to offer a major contribution not only to the preparation of teachers but also to the sociology of curriculum knowledge.

4. Teacher Assessment in the Class-room

One of the most difficult problems in the whole of professional preparation is the question of assessment. Reference has already been made to the desirability of achieving some measure of self-assessment on the part of teachers in their long-term as well as their short-term interest. But what is meant by "the good teacher"? Fontana (1972) conducted an enquiry at St. Peter's College of Education. He constructed an Attributes of Teachers scale from statements of the "good teacher" invited from the staff of the College. The scale was then presented to tutors in his own and nearby colleges. Though the level of agreement reached was low, he identified a number of items such as "a knowledge of, and feeling for, children's emotional needs" and an "enduring enthusiasm for the task of teaching" and "a sound knowledge of the subject matter it is his or her purpose to convey". The findings, though tentative, appear to have been of assistance to staff and students.

Stones and Morris (1972) attempted a somewhat more rigorous search for criteria that are applied within the colleges. Using sophisticated statistical procedures they still found it impossible to reveal any distinct groupings of factors. The largest single

factor was still of an heterogeneous nature, including items such as "satisfactory planning, aims and objectives", "promotion of children's participation", "maintenance of discipline and order", "creating and sustaining interest" and "appearance and social climate of the classroom". Stones and Morris also found the diversity of procedure for assessment of practical teaching somewhat unclear and noted that in most cases the mark allocated to the student was not subject to close scrutiny: 23% of the respondents to the Stones and Morris study did not inform students of the criteria on which their assessment was based and elsewhere the feedback appeared to be spasmodic.

The problem of feedback has been explored by Wragg (1971) in an innovatory programme. Students were divided into four groups. Group 1 received feedback from television, recordings and results of a Flanders-type interaction analysis. Group 2 received a television feedback only and Group 3 received the Flanders analysis feedback only; Group 4 received no feedback. The results of this finding suggested that when student teachers re-taught a lesson after a one hour interval to a similar group of children, it tended to be largely the same both in terms of type of interaction as measured by the Flanders analysis and in terms of competence as judged by the children. But exceptions to this were that those teachers who received both the television and interaction analysis feedback were rated significantly higher by the children on the re-teaching. They also "lectured" considerably less at the time and got more spontaneous pupil response. Those receiving only television feedback "lectured" slightly less and those receiving interaction analysis feedback only used slightly more praise, "lectured" much less and gained more pupil response. No feedback led to a decrease in questioning and an increase in "lecturing".

Further initiatives have been undertaken in the University of Bristol in conjunction with two local colleges of education and 35 local schools (Cope, 1971, 1973). These suggested the desirability of close links between the staff of training establishments and teachers along the lines indicated in the developments of teacher-tutor schemes though it was emphasized that teacher-tutor arrangements are but one aspect of the link between schools and colleges and that there are considerable dangers if these are seen to be sufficient in themselves without reinforcement by a range of other contacts. Further work is taking place in Bristol in the study of supervisory procedures to increase sensitivity and participation by school teachers, lecturers and students. But as Cope emphasizes repeatedly in her various papers, supervision is a complex and difficult task made even harder by the uncertainty of objectives and procedures to which attention has already been drawn. It may well be that further innovation in the supervision and assessment of teaching practice will call for the adoption of strategies of training for supervision along the lines of long-standing practices in the field of professional social work in Britain.

The developments and innovations in the presentation of professional practice that have been discussed are likely to offer some solutions to the more immediate problems of teaching practice. Yet other difficulties will remain. The timing of the practice can never be entirely satisfactory - if it is early the student is "too raw" for schools; if

it is late the early part of the college course lacks a sufficient experimental basis. And it can never avoid the disputes between novices and incumbents, between practitioners and trainers and, above all, the disputes about the nature and control of professional preparation. But if the colleges are to act responsibly they cannot accede to the view that experience is the dominant basis of professional preparation. If they do they not only devalue the part that detached objective analysis can play in the development of teaching - they also devalue the important contribution that the student himself can make, as a student, to the development of the profession. And the colleges have much to show for their insistence on this basic duty however unsurely and unclearly they have sometimes exercised it. The remarkable changes that are taking place in primary education and much of the pressure for the curriculum changes now taking place in secondary education, spring in large measure from the work the colleges and departments have undertaken with their students. As in all professional training courses, experience alone is not enough. The scheme for the development of teaching practice by placing the role of experience in a more appropriate context can help students, tutors and teachers to realise this more clearly. The implications for in-service training as well as for initial training are important.

D. In-Service Training and Retraining

The range of innovations in initial training is for the most part equally relevant in a number of aspects of in-service training. In this section of the report, however, attention will be confined to those innovations that have been specifically focused on the in-service field.

1. The National Centre for Educational Technology (NCET) Innovation Development Project

This major project, currently taking place in association with the Centre for Educational Technology at the University of Sussex, aims to document innovations in a variety of schools (primary, middle and secondary). Materials are being compiled which will illustrate methods of tackling defined learning problems. They are intended for use by teachers on courses or at teachers' centres and are designed to stimulate discussion and promote changes in teaching methods. The materials will consist of tapes, slides, video tape, printed material, overhead projector transparencies. They will attempt to answer two kinds of questions: how a teaching situation has been set up and maintained; and why the teaching has been organised in this way.

The case studies which are currently being prepared relate to the use of resources and may be divided into the following sections:

a. Acquiring, producing and organising resources

This deals with difficulties of obtaining or producing relevant material; the machinery necessary for the production of resources within a school; various indexing systems; how material can be made accessible to pupils or teachers; and feedback on the use of a school's resources.

b. The management and use of resources

This consists of a number of case studies illustrating the use of different kinds of resources: worksheets and booklets, audio visual aids, broadcasting. The studies will relate the use of resources to the problems faced by the teacher and his objectives. They will cover a range of topics from the development of oral and written language to the use of programmed material for the teaching of science.

c. Changes in teaching organisation which may result from an increased use of resources

This concerns the development of various kinds of team teaching and team planning and preparation of materials; changes in time-tabling; problems of keeping adequate records; and the use of ancillary staff.

The materials will be compiled to allow maximum flexibility in use, and a manual will be provided with each package of materials.

2. Developments in the Probationary Year

An extensive study of the first year of professional service of teachers has been undertaken at the University of Bristol (Taylor and Dale 1971). As a result of a number of deficiencies identified in the experience of the probationary teachers studied, a major innovatory project has been undertaken. The main focus has been on schemes of induction and guidance for probationers. One rural and three urban areas have been selected and four agencies have combined in the planning and implementing of the course - the schools, local education authorities and the colleges and the universities. The course in each of four local education authority areas has a framework based on voluntary attendance along the following lines:

- Induction Conference (in school time)
- Autumn Term General Meetings (mainly evenings)
- Spring/Summer Term Specific Topic Courses (mainly evenings)
- Overview Conference (in school time)

Detailed reports of this project are not yet available but it is already clear that considerable developments have taken place not only in the probationers' professional development but also in their self-image as teachers.

The project is closely linked with the developments in services for probationary teachers which are being planned as a result of the White Paper and already four pilot areas of in-service probationary year activities have been established (Gloucestershire, one of the areas involved in the Bristol Project; Liverpool, London and Northumberland). An important part of these new pilot arrangements is, of course, the introduction of professional tutors acting in the manner outlined in the preceding section on teacher-tutor arrangements, but here, of course, they are specifically concerned with the development of work with teachers in their first year of professional service. A number of special training courses are being established for the new professional tutors in order to enable them to perform the wide range of duties envisaged for them which extend from career ad-

vice on teaching through to the advising of the head teachers on the programme of in-service training for the school staff. Whilst his work will be focused on the probationary year it is quite clear that the professional teacher will be looked to as a kind of professional counsellor and adviser by a wide range of other staff as well as by students undertaking practice in the schools.

3. The Teachers' Centre Movement

The teachers' centres are probably one of the major innovations in professional education to have taken place in England and Wales in recent years. There are now some 650 teachers' centres in England and Wales. Renamed Professional Centres by the White Paper, they provide a localized source of information and guidance for all teachers in their catchment area. Characteristically each centre is administered by an experienced teacher acting as warden or leader who is able to make available to teachers a range of courses that respond to their professional needs. There is also a resources centre storing not only books but a wide range of other media that may be borrowed for use in school class-rooms or staff rooms. There is normally a range of audio visual equipment for borrowing and which augments equipment in the schools. Office facilities are available and occasionally secretarial facilities, too. Many centres have technical staff available to guide teachers in the preparation of transparencies, slides and other audio visual material. There is normally a common room and refreshment facilities. In many local authority areas the teachers' centre seems to be the nucleus of new developments in the curriculum and methodology of teaching in their areas and the liaison with the Local Education Authority (LEA) advisory staff is a very close one. In some larger authorities there are also specialist teachers' centres notably in the sciences and design areas. The majority of teachers' centres have developed in old school buildings extensively refurbished. Often the laboratory, craft and art facilities of the schools have been retained and adapted for use by teachers as "teachers' workshops".

Following the White Paper it has been envisaged that colleges of education would also be able to provide professional centres for teachers. There is an obvious economy here in face of the increasing number of professional centres that will be required to implement the in-service proposals of the White Paper and the diminished use of a number of college of education facilities following the reduction of initial training. The colleges are also likely to have residential accommodation available which has advantages in many rural areas where even local teachers' centres are not conveniently accessible to teachers in widely dispersed schools. Yet there is some uncertainty amongst many teachers and local authority staffs about the wisdom of housing professional centres in the colleges. There is a widespread view that an independent location removed from the scene of initial training is likely to be preferred even on emotional grounds. This raises yet again the still unresolved boundary between initial and in-service education that has characterised English teacher education for many decades.

4. Post-Experience Courses at the Open University

An important new initiative in in-service education is the introduction of post-

experience courses by the Open University. Based upon the lines now well established by the Open University in its work with undergraduates, the post-experience courses are primarily designed for adults who have practical experience in a given field and wish to develop or broaden their skills and understanding to a higher level. The teaching is by means of correspondence material which is integrated with television and radio programmes.

Although the post-experience courses cater for a wide range of personnel, a particularly strong emphasis is given to courses that are of relevance to teachers. These courses include:

New Trends in Geography
Methods of Educational Enquiry: An Empirical Approach
Reading Development
Background to School Mathematics I: Real Numbers
Background to School Mathematics II: Functions - The Key To

An excerpt from the course syllabus to Reading Development will indicate the nature of the courses provided:

"This course is concerned with improving standards of reading. Naturally, one course cannot cover the whole field of reading. The course team therefore decided to concentrate on the development of competence in the middle years of schooling. Here the major concerns are to help children to develop their ability to learn through reading and to enrich their experience through reading. Thus, the course deals with reading in every area of the curriculum. In addition, in its concern to improve standards of reading, the course team was led to consider what more could be done in schools to provide a better preparation for coping with the reading demands of the adult world.

"A major aim of the course is to develop current thinking about the nature of reading and the reading process as a preliminary to discussing improvements in the teaching of reading. In view of this the course team has tried, wherever possible, to consider each theoretical issue in terms of its practical implications. The course examines how children learn to read, and following this stage, how opportunities may be successively provided within the curriculum for developing a wide variety of reading interests and reading skills.

"The course seeks to develop an understanding of the kinds of skills which may be useful in helping the individual child to develop his strengths and overcome his weaknesses. To this end it outlines methods of helping children of all levels of ability, not just the less able. As a result of their study, it is hoped that students will revise upwards their previous ideas about the levels of reading that pupils can comfortably achieve if suitably motivated and given appropriate opportunities for development.

"The course aims to stimulate the student to review his own role as an agent in the teaching of reading. If reading is important in every aspect of the curriculum, then every teacher must be regarded as a teacher of reading. It is intended, therefore, to develop an awareness of an extended professional role which the teacher, who has made a special study of reading, may choose to undertake in relation to his colleagues and others concerned with the teaching of reading.

"The course also aims to help the student consider his own reading. In exploring and developing his own reading it is felt that the student will acquire a greater insight into the nature of children's reading and how this can be further improved. In the latter part of the course students will be given the opportunity to undertake a major activity in an area of particular interest to themselves.

"This course is primarily intended for teachers in any subject area. It will also be of interest and value to tutors in colleges of education and educational psychologists and to others who are directly concerned with helping children to learn through reading, but lack of teaching experience or inadequate access to children or schools would make it difficult to obtain full value from the course.

"The course is made up of 17 units of correspondence material. The other components of the course will be: 12 television programmes, 8 radio programmes and 4 tutor-marked assignments to form the basis for continuous assessment; a number of tutorials held in the evenings or at the weekend. (Attendance at these is voluntary, although it is hoped that most students will be able to come to some of the sessions.) A final three-hour written examination will be held on the course."

Though the Reading Development course, like other courses, is still at an experimental level, there is already considerable evidence that teachers following it are experiencing an important contribution to their professional education and that this and similar courses have a permanent part to play in emerging patterns of in-service professional education.

III. RESUME OF THE PROSPECTS FOR INITIATION IN TEACHER EDUCATION AND ITS EVALUATION

The preceding sections of this report have indicated the wide and complex spectrum of initiation in teacher education and re-education in England and Wales. Where have the main areas for future development been seen? To answer this question one must inevitably turn again to the White Paper. There it is apparent that some of the main opportunities are likely to spring from the new forms of initial training establishment and the interplay between courses for teaching and courses for other professional and non-professional training. It is impossible to indicate clearly where initiation will develop in the new amalgam of polytechnic and multi-technic institutions. To try to explore it would be to go beyond the study of innovation and enter the world of prediction. But it seems probable that within a pluralist system the main thrust of establishing the teacher's identity will be borne not so much by the training institutions, as in the past, but rather by the schools through the development of the probationary year. As the colleges become less "teaching dominated" the schools are likely to assume an increasing ascendancy in this task of professional socialization. It is suggested that in consequence the emphasis on curriculum developments that in the past has been substantially carried through initial training is now likely to be more fully centred on the in-service area. Projects like the Science Teacher Evaluation Project are likely to become more clearly aimed at probationary and established rather than at prospective science teachers.

More generally it seems possible that the main initiatives in teacher education in the future are likely to occur in the in-service field. It has long been suspected that this could provide a more appropriate area. Developing new initiatives through work with prospective teachers has been an uncertain and sometimes wasteful exercise. We have come to realise that the beginning teacher is often least well placed to bring about change in the school. More normally he is expected to conform to existing practice as the price of recognition and achieving security. It may well be that the possibilities of effective initiative work in the in-service training field will be facilitated by other factors that have been sighted in this report. These include the increased funding for the day release of probationary teachers and the guaranteed periods of secondment that are to be available "as a right" to all teachers. They may also be enhanced by the more "open" and "less committed" initial preparation of teachers that we have noticed that could bring about a more diverse and less "conditioned" group of entrants to the profession.

None of this is to suggest that the important initiatives in initial training that have been reviewed will now assume diminished significance; rather that they will come to be developed in an in-service context as well as an initial training context. There are already signs that much of the work on new courses, educational technology and the presentation of professional practice are making a major contribution to in-service work.

Evaluation

The problems of evaluating innovation are likely to remain. Frequent reference has been made to the difficulties of effective evaluation - even as the basic level of determining effective criteria as to what constitutes "the good teacher". Perhaps one of the most important areas of future innovation would be the establishment of machinery to monitor new developments in teacher education. Limited governmental funds have been available for the evaluation of experimental schemes such as the work at Lancaster, but this is still spasmodic. The Committee for Research into Teacher Education (CRITE) established by the Association of Teachers in Colleges and Departments of Education (ATCDE) and the Universities Council for the Education of Teachers (UCET) in 1969 has still been unable to persuade funding bodies to sponsor studies of this kind.

A particular problem is the relatively "non-scientific" nature of innovation in teacher education. As Parlett and Hamilton (1972) have suggested these innovations are of the "agricultural botany" type. The effectiveness of an innovation is assessed "by examining whether or not it has reached required standards on prespecified criteria".

Garner (1972) makes a similar point when he observes "that it is hard to see when discussions about the effectiveness of different patterns of organization can be more than mere exchanges of opinion until such time as acceptable measures are available". Yet he concludes his review of the nature of teaching and the effectiveness of teachers with the statement that "the development of knowledge about classroom behaviour and its consequences is at last beginning to give an air of promise to the study of teacher effectiveness".

Perhaps it is in the study of the class-room and its behaviour (and in particular the perceptions brought to it by teachers and children) rather than in the study of teacher training as such that we shall make the most effective platform for future progress. It may certainly provide us with the knowledge to do something to eradicate, on the one hand, the inadequacies that we can perceive all too readily in many of our existing arrangements and, on the other hand, to diminish the lack of confidence with which many practising teachers view them.

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